

AMERICAN GAS ASSOCIATION MONTHLY

April 1928

Volume X

Number 4

Dallas Meet Climaxes Year of Accomplishment
By N. C. MCGOWEN

Dallas Is a Natural Gas City
By WILLIAM C. GRANT

Tentative Program of Natural Gas Convention
Sales Allies—Their Value in the Present Age
By OSCAR H. FOGG

Many Manufacturers Will Show at Dallas
Pennsylvania Sets Enviably Record
By S. W. MEALS

Cornerstone of New Laboratory Is Laid

AND OTHER FEATURE ARTICLES OF NATURAL GAS INTEREST BY
ALEXANDER B. MACBETH, H. L. MONTGOMERY,
W. H. MCKENZIE, R. M. CONNER



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May 7-10
are the dates

Dallas
the place

The Convention
of the

Natural Gas
Department
is the event

Will YOU be there

SUBSCRIPTION RATE

\$3.00 PER YEAR

For statements and opinions contained in papers and discussions appearing herein, the Association does not hold itself responsible.

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Our Own Who's Who



XXXV

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Philip G. Gossler

BORN 1870 at Columbia Pa.; received preliminary education in public schools there; graduated in 1890 from Pennsylvania State College with degree of B.S.; in 1892 received degree of E.E., and in 1893 pursued post-graduate course in electrical engineering at Columbia University. First positions were in engineering department of Foundry & Machine Co. and Edison General Electric Co. of Chester, Pa.; in 1891-1895 was assistant engineer of United Electric Light & Power Co. of New York; from 1895-1901 served as superintendent and engineer of Royal Electric Co. of Montreal, Canada; during following three years was general superintendent and engineer of the Montreal Light, Heat & Power Co.; thereafter until 1909 was vice-president of J. G. White & Co. of New York. From 1909 until 1926 was chairman of the board of the Columbia Gas & Electric Co. Since that time has been president of the Columbia Gas & Electric Corp. Is president and director of the Columbia Gas & Electric Corp. and is officer or director of its subsidiary companies, principal of which are the Union Gas & Electric Co. of Cincinnati, Ohio; Dayton Power & Light Co. of Dayton, Ohio; United Fuel Gas Co. of Charleston, W. Va.; Manufacturers Light & Heat Co., Pittsburgh, Pa.; and Ohio Fuel Gas Co., Columbus, Ohio. He is also director of the Guaranty Trust Co., New York, and the Morristown (N. J.) Trust Co., Charleston Industrial Corp., Guysboro Wood & Pulp Co., Laclede Gas & Electric Co., Laclede Gas Light Co., Morristown Securities Corp., and J. G. White & Co.

AMERICAN GAS ASSOCIATION MONTHLY

Vol. X

APRIL, 1928

No. 4

Dallas Meet Climaxes Year of Accomplishment

Biggest Convention Follows Biggest Year

By N. C. MCGOWEN

Chairman, Natural Gas Department

JUST as the past year has been one of the most important the organized natural gas industry of America has ever witnessed, so will the coming Dallas convention be the most outstanding meeting ever held. I say this advisedly, and in the face of records established by splendid conventions held in past years. However, it is apparent, even to the uninitiated, that at this date indications point to a most valuable and interesting meeting which no one in the natural gas industry can afford to miss.

Since last May we have made progress, and this period will in all probability go down in natural gas history as one of the most important and crucial we have ever witnessed. Since our last convention at Cincinnati we have seen the Natural Gas Association of America merged successfully with the American Gas Association. We have seen that the result of this merger is a stronger, completely unified gas industry, with natural gas and manufactured gas allies in solving the problems necessary to render more than 75,000,000 people with gas service.

We have also seen the accomplishment

FROM THE PRESIDENT

IN extending my best wishes to those who are planning for a memorable first meeting of our Natural Gas Department at Dallas, May 7 to 10, I am merely reflecting the sentiments of all members of the American Gas Association.

It is our hope that out of this convention may come a finer coordination of effort within the industry to improve the standards of public service.

Success to the Dallas convention!

OSCAR H. FOGG,
President, A. G. A.

of many of the things we ardently hoped for in May, 1927. I might add that more has been done than even the most optimistic of us dared hope for a year ago. That much still remains to be done is not a deterrent at this time. Rather, with the stimulus of a year of actual accomplishment behind us, we are

looking forward to next year with renewed zest.

So the Dallas convention comes at a most crucial time. We will have the opportunity to see the progress made in the past year, and we will also learn what is ahead.

The program will deal with subjects of paramount interest to the entire natural gas industry. The exhibition will be a record-breaking one in every sense of the word—it will be larger and better than ever before, because the past year has seen remarkable developments on the part of our manufacturer companies. The entertainment will be of the high quality that natural gas men are used to.

However, our members can see for themselves from this issue of the A. G. A. MONTHLY that enough is settled of the



T. B. Gregory



J. D. Creveling



N. C. McGowen



J. B. Corrin

THE EXECUTIVE COMMITTEE OF THE NATURAL GAS DEPARTMENT

The Executive Committee of the Managing Committee of the Natural Gas Department consists of the following members:

J. B. Corrin, Hope Natural Gas Co., Pittsburgh, Pa.

J. D. Creveling, Henry L. Doherty & Co., New York, N. Y.

T. B. Gregory, Columbia Gas and Electric Co., Pittsburgh, Pa.

N. C. McGowen, Palmer Corp., Shreveport, La., and chairman of the Natural Gas Department.

S. W. Meals, of the Carnegie Natural Gas Co., Pittsburgh, Pa., and vice-chairman of the Natural Gas Department, acts as a member in the absence of Mr. McGowen.

program of the Dallas convention to establish it as one which they should attend. We will not concern ourselves with this now, but will rather let the articles and material in this issue demonstrate the imperativeness of attendance at Dallas. We will not dwell on the splendid committee reports, the feature speakers, nor other high lights, because it is not necessary to reemphasize the importance of them as outlined in the tentative program.

Rather, let us consider what the true meaning of the Dallas meeting is. If that is understood, previous records for attendance will be shattered, and we will witness at Dallas the gathering of an enthusiastic group of gas men who are not content with laurels already won, but who look forward to new goals and new ambitions much the same as the ancient gladiator looked forward to new battles when once he had felt the glory of success.

And what is the true meaning of the meeting? Briefly, it is that the Dallas convention comes at the end of a successful year and the start of what we hope will be an even more successful one. As chairman of the Department, I urge all members to attend.

Inert Order Abandoned

A RECENT order of the New York Public Service Commission announces abandonment of the inert requirement as a standard of quality for manufactured gas. In cases 108 and 881, it is ordered that orders of Aug. 30, 1922, and Sept. 21, 1922, and subsequent dates, be amended by striking out the following clause:

"Containing not more than 15 per cent of inert constituents."

W. C. Grant Is Appointed Acting Secretary of S. W. Div.



W. C. Grant

WILLIAM C. GRANT has been appointed acting secretary of the Southwest Division of the Natural Gas Department of the American Gas Association. He succeeds George McQuaid, whose untimely death is announced elsewhere in this issue of the MONTHLY.

Mr. Grant is also director of the Texas Public Service Information Bureau, and is well-known to Texas gas men.



The famous sky-line of the beautiful convention city

Dallas Is a Natural Gas City

Meeting Place for Natural Gas Convention Holds Much of Interest for Natural Gas Men

By WILLIAM C. GRANT

Acting Secretary, Southwest Division, Natural Gas Department, A. G. A., Dallas, Texas

A GAS-MADE city is Dallas, Texas, where the Natural Gas Department of the American Gas Association will hold its annual convention from May 7 to 10. A great man once said in reference to his mother, "To her I owe all I have and all I am." Gas is the mother of modern Dallas, and to this mother sprung from the bosom of nature, this Lone Star city may well say, "To thee I owe much that I am and all I hope to be."

One can scarcely conceive of the Dallas of today without gas. Out on the Texas plains, where there is no timber and not a vestige of a coal mine, where would Dallas be without the magic fuel that wells up from the depths of her soil? Within two decades this city has sprung from a town to the proportions of a city. She has become the industrial city of the Southwest and the commercial center of a territory as large as several states. Yet, within her borders there is but a single black smokestack, and this is maintained by a northern firm, whose fuel buyer lives in smoke-shrouded Chicago.

Seeing the cause of her past growth

and glimpsing the reason for her coming glory, Dallas now is taking full advantage of her incomparable fuel supply, and is beckoning to all the land, to factories, business men, and residents everywhere to come here and live in a spotless town, and the city is basing its bids for future industries on the very gas supply that has brought her to the present stage of proud virility.

Only one smokestack in the city is sending out dark smoke. This firm buys coal in great quantities and ships it long distances because its northern manager, inured to soot, coal dust, and twilight, remains unconvinced that natural gas can do the work.

There is one young lady in Dallas whose heaven will be at hand when she has caused removal of this last-remaining offender. She is Miss Lois Upshaw, advertising manager and general good-will missionary of the Dallas Gas Company, of which Henry C. Morris is manager. Mr. Morris is also chairman of the Arrangements Committee for the gas convention. Miss Upshaw has been work-



An interesting view of Dallas

ing for a long time to make Dallas an absolutely smokeless town. She has finally got the situation down to this one obdurate chimney, which she hopes will either be removed by the time of the convention, or else keep its sooty head out of sight while our visitors are here.

One or two other firms burn waste, such as a planing mill or two which consume sawdust, but they make very little smoke. Outside these there is no smoke in this town. So Dallas cannot say, "Watch My Smoke" and she's glad of it.

This gas town is the center of one of the most extensive gas developments of the past year. Gas pipe lines radiate from Dallas in a network throughout the state. The distributing company buys its product from the Lone Star Gas Company, which now has more than three thousand miles of mains, and serves more than two hundred towns with almost two hundred thousand customers.

This one company in 1927 added more than 909 miles of main line gas pipe and 65 towns—towns which had been toting wood for many a long year. Five fields in various parts of Texas and Oklahoma insure Dallas an ample and uninterrupted

supply of gas for years to come. Dallas is connected with these fields by the Lone Star Company's interconnecting lines and also by the lines of the La-Tex Company which draws its supply from Louisiana. The people of the city and suburbs consumed 11,782,189,000 cu.ft. in 1927. La-Tex supplies a few industries.

When delegates come from far and near to what will undoubtedly be a record-breaking convention, they should feel right at home. Their hotel will be a gas hotel from cellar to garret, and all buildings in which they hold their meetings and their exhibits will be gas-heated, and the food they eat will be gas-cooked. The street cars they ride will be run by electricity made by gas heat.

It was in those hearty days when the barbecue was the mode of public celebration that Dallas acquired its first gas. At twilight on June 22, 1874, a delegation of leading citizens gathered at the gas works down by the freight yards and with speeches and refreshments turned on the 550 B.t.u. gas through Bois D'Arc main lines. Meanwhile, corps of drilled men with ladders, on guard for the zero hour, lighted the street lamps, and Dallas had its white way. The Dallas City Gas Light Company, incorporated in August, 1873, had "floodlight" illumination over its plant and grounds for the gala occasion.

On June 18, 1891, the "Dallas Gas and Fuel Company" was incorporated. In June, 1905, the Dallas Gas Company succeeded to all the property and rights of the predecessor company, and operates today.

By 1910 the town was so citified that barbecues were considered out of style, and it came to pass that not even a brass band celebrated that fine day of April 29, 1910, when Dallas got its natural gas. This gas was piped by the Lone Star Company from the Petrolia Field near Oklahoma to the city gates, and to this day it continues to come from that and four other fields. From 1910, with 8743 meters, the total has grown today to more than sixty-five thousand.

Natural Gas Industry Turns Toward Dallas

Natural Gas Men Will Meet in Heart of Great Southwest
from May 7 to 10

THE natural gas industry is Dallas-minded! The one big event of the year from the natural gas man's standpoint is the annual convention and exhibition of the Natural Gas Department of the American Gas Association, and this year, when the meeting will be held at Dallas, May 7-10, it is expected that approximately 1000 representatives will take an active part in the convention, derive full benefit from a program of exceptional merit, inspect thoroughly the offerings of the large exhibition, and enjoy to the utmost the entertainment that will be Dallas's best.

The exhibition is destined to be one of the most interesting features of the meeting. Ample space is available for one of the largest natural gas exhibits ever staged, and manufacturers will have the opportunity to show their products under the most favorable conditions. At the time of this writing, a large proportion of the space has been allotted, and included in the list of exhibitors are many who have never taken space at natural gas meetings before, in addition to many who have been represented at past exhibits.

The business sessions will be real "business sessions." The list of speakers is an imposing one, and the subjects to be covered are timely and important. Inter-spersed in the program are high spots which will prove interesting to all.

The program needs no explanation. As outlined on pages 201 and 204, the busi-



The Adolphus—the official convention hotel

ness sessions will be of real value. The addresses, the reports, and the discussions have been carefully planned to give the natural gas men a convention that will go down in history as one of the best that has been held.

The entertainment features deserve special mention. Complimentary luncheons will be served every noon in the Manufacturers' building, carrying out the tradition long established by the supply men's association. In addition there will be a vaudeville and smoker at the Hotel Adolphus the evening of May 8th. H. C. Morris and F. M. Lege are in charge of this event.

The annual banquet will be held Wednesday evening, May 9th. An imposing array of speakers will address the banquet, including Hon. Dan Moody, governor of Texas; Judge C. B. Gilmore, chairman of the Railroad Commission of Texas; Oscar H. Fogg, president of the American Gas Association, and J. J. Taylor, of *The Dallas News*.

L. B. Denning and E. R. Brown are arranging the banquet details.

It is hoped that representatives of the Texas Master Plumbers' Association will attend the convention, and the invitation has been sent to Joseph E. Fisher, of Houston, president of the association.

Monday, May 7, will be devoted to special meetings of various Department committees.

The Main Technical and Research

A Few Natural Gas Convention Headliners



E. O. Bennett

© Blank & Stoller
F. M. Towle

H. D. Hancock



R. W. Hendee

Committee and sub-committees will meet in Rooms 629 and 656 at the Adolphus at 10:30 A.M.

The Managing and Advisory Committees will meet in Room 630 of the Adolphus at 4:30 P.M.

The dinner of the Managing and Advisory Committees will be held in the English Room of the Adolphus at 6:30 P.M.

Everyone attending the convention is urged to register, and *register early*. There will be no registration fee this year.

Governors and public utility commissioners from the leading natural gas states of the country have been invited to attend. In addition to the courtesy of issuing these invitations, the purpose is to call to the attention of these leading public officials the growing importance of the natural gas industry and the service it renders to millions of customers.

If effort can make this convention a

success, it is a foregone conclusion that the 1928 convention of the Natural Gas Department will go down in the annals of history as *the natural gas meeting*.

Convention committee chairmen report without exception that their committees are working hard and enthusiastically to make the Dallas meeting the success it should be. The Dallas hotels and the local Chamber of Commerce are also cooperating and assisting, and on May 11 there will be but one thought in every natural gas man's mind and that is this—"It was the *biggest and best* convention I've ever attended."

Carl D. Bradley

CARL D. BRADLEY, who in the '80's was well known as a dealer in gas plant apparatus, died at Pasadena, Calif., on April 18.

Mr. Bradley was at one time an assistant to George G. Ramsdell, who was then with the American Gas Co., Philadelphia, Pa. Later Mr. Bradley was connected with the U. S. Steel Co.

Entertainment Program for Dallas

TUESDAY—May 8th

8:30 P.M.

Vaudeville and Smoker, Junior Ballroom, Hotel Adolphus

WEDNESDAY—May 9th

6:30 P.M.

*Annual Banquet—Speakers—*Hon. Dan Moody, governor of Texas.

Judge C. B. Gilmore, chairman, Railroad Commission of Texas.

O. H. Fogg, president, American Gas Association.

J. J. Taylor, "The Dallas News."



Fair Park Auditorium—where convention sessions will be held

Tentative Program of Natural Gas Convention

Dallas, Texas, May 7-10

NOTE—This Program is tentative and liable to change. It is printed for the information of our readers. The final Program will be distributed to those in attendance at Dallas.

MONDAY—May 7th

- 9:00 A.M.—Opening of Exhibition of Appliances and Apparatus in Manufacturers' Building, Texas Fair Grounds.
 10:30 A.M.—Meeting of the Main Technical and Research Committee and Subcommittees, Rooms 629 and 656, Hotel Adolphus.
 12:00 Noon—Complimentary Luncheon will be served in the Manufacturers' Building, Texas Fair Grounds.
 4:30 P.M.—Meeting of the Managing and Advisory Committee, Natural Gas Department, Room 630, Hotel Adolphus.
 6:30 P.M.—Dinner of the Managing and Advisory Committees, Natural Gas Department, English Room, Hotel Adolphus.

TUESDAY—May 8th

10:00 A.M.

Opening of Annual Meeting, Natural Gas Department, Auditorium, Texas Fair Grounds
Call to Order—N. C. McGowen, Chairman, Natural Gas Department.

Invocation—

Address of Welcome—

Response—Christy Payne, President, Hope Natural Gas Co., Pittsburgh, Pa.

Address of the Chairman—N. C. McGowen, vice-president, The Palmer Corp., Shreveport, La.

Appointment of Committee on Chairman's Address—S. W. Meals, vice-chairman, Natural Gas Department.

Report of Memorials Committee—

Address—O. H. Fogg, President, American Gas Association.

Paper—"The History and Problems of the Natural Gas Industry in California"—(Author to be announced).

Address—Alexander Forward, managing director, American Gas Association.

Paper—(Title to be announced), R. M. Conner, director, American Gas Association Testing Laboratory.

12:00 Noon

Complimentary Luncheon, Manufacturers' Building, Texas Fair Grounds.

(Continued on page 204)

*H. N. Greis*

Natural Gas Convention Committees

*A. W. Leonard**H. L. Whitelaw**H. L. Montgomery**C. W. Berghorn**E. F. Schmidt*

Exhibition Committee

Those in charge of the Dallas exhibition are: Chairman, H. L. Montgomery, Bartlesville, Okla.; C. C. Cartwright, Ft. Worth, Texas; H. N. Greis, Tulsa, Okla.;

A. W. Leonard, Tulsa, Okla.; E. F. Schmidt, Dallas, Tex.; H. Leigh Whitelaw, New York, N. Y., and C. W. Berghorn, A. G. A. Headquarters.

*F. M. Lege**H. C. Morris**E. R. Brown**C. B. McKinney*

Arrangements, Banquet, and Smoker

H. C. Morris, Dallas, Texas, is chairman of the Committee on Arrangements. He is assisted by F. M. Lege, Dallas, and C. B. McKinney, Houston. Mr. Morris

and Mr. Lege are the committee on the Smoker, and L. B. Denning, Dallas, and E. R. Brown, Dallas, the Committee in charge of the annual Banquet.



L. K. Langdon



J. H. Maxon

Committee on Papers

The convention Committee on papers consists of L. K. Langdon, Cincinnati, Ohio, chairman; J. H. Maxon, Muncie, Ind., and F. L. Chase, Dallas, Texas.



W. H. Thompson



Raymond Cross



T. R. Weymouth



A. W. Robertson



M. W. Walsh



N. C. McGowen



S. W. Meals

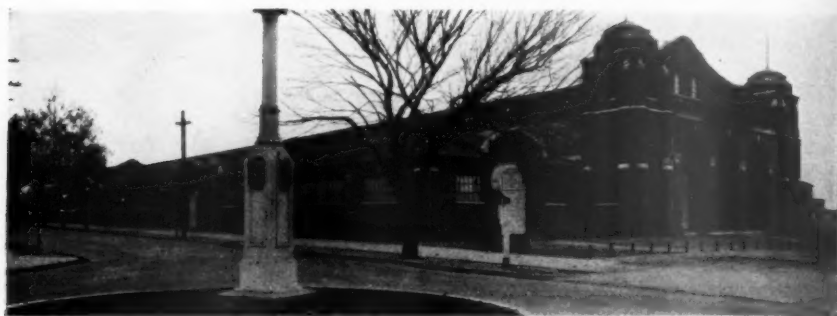


J. H. Dye

The Managing Committee

The Natural Gas Department's Managing Committee includes the following: N. C. McGowen, chairman; S. W. Meals, vice-chairman; T. B. Gregory, Raymond Cross, T. R. Weymouth, A. W. Robertson, M. W. Walsh, J. H. Dye, and W. H. Thompson.

Other members are L. K. Langdon, H. C. Morris, H. L. Montgomery, F. L. Chase, T. B. Gregory, and H. C. Cooper, most of whose pictures appear elsewhere in this issue.



Manufacturers Building—which will house the exhibition

(Continued from page 201)

2:00 P.M.

Second Session, Auditorium, Texas Fair Grounds

Report—Wrinkle Committee—H. J. Struth, Chairman, Cincinnati, Ohio.

Paper—"Employees' Performance in the Natural Gas Business"—R. W. Hendee, Oklahoma Natural Gas Corp., Tulsa, Okla.

Paper—"Why a Gas Company Should Merchandise and How"—T. L. Phillips, Union Gas & Electric Co., Cincinnati, Ohio.

Informal Addresses.

WEDNESDAY—May 9th

10:00 A.M.

Third Session, Auditorium, Texas Fair Grounds

Paper—"Limiting Factors for Natural Gas Projects"—P. McD. Biddison, Gas Producing Co. of Louisiana, Bastrop, La.

Paper—"Pipe Corrosion and Protection" by W. G. Hagan, The East Ohio Gas Co., Cleveland, Ohio.

Question Discussion—Discussion of ten questions, with J. D. Creveling, Henry L. Doherty & Company, New York, N. Y., acting as chairman.

(Titles of Questions to be announced)

12:00 Noon

Complimentary Luncheon, Manufacturers' Building, Texas Fair Grounds.

2:00 P.M.

Resumption of the Question Discussion.

THURSDAY—May 10th

10:00 A.M.

Fifth Session, Auditorium, Texas Fair Grounds

Paper—"Gas Sands in South Texas"—J. B. Best, The Houston Pipe Line Co., Houston, Texas.

Paper—"Increasing Use of Natural Gas for Oil Recovery and its Economic Effect on the Natural Gas Industry"—E. O. Bennett, The Marland Oil Co., Ft. Worth, Texas.

Reports—Main Technical and Research Committees—H. C. Cooper, chairman. Gas Measurement Committee—F. M. Towl, chairman. Pipe Line Flow Committee—H. D. Hancock, chairman.

Reports—Committee on Chairman's Address.

Committee on Place of Meeting.

Committee on Nominations.

Election of Department Officers.

Report—Committee on Final Resolutions.

Adjournment.

Many Manufacturers Will Show at Dallas

Partial List of Exhibitors Who Will Take Part in Exhibit of Appliances and Equipment

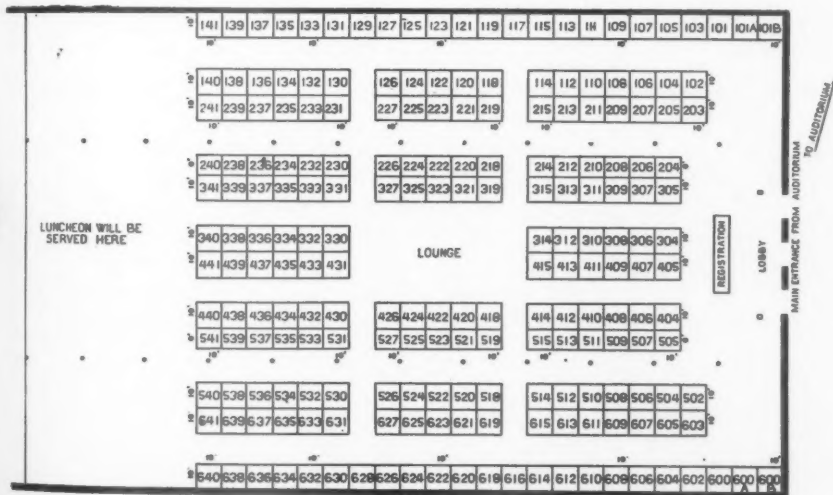
PRESENT indications point to a record exhibition at the Dallas convention of the Natural Gas Department. Manufacturers in all parts of the country have contracted for space, and a special announcement of the Exhibition Committee, headed by H. L. Montgomery, of Bartlesville, Okla., calls attention to the fact that the plans of the committee for a most comprehensive and interesting exhibit are rapidly materializing.

It is particularly fitting that the Dallas show should reflect the general spirit of the natural gas industry, according to C. W. Berghorn, director of the exhibit.

"Dallas ranks high as a manufacturing and commercial center, and is also the center of the Southwest natural gas development," says Mr. Berghorn. "Both the convention and exhibition will be of sufficiently high quality to merit unusual attention in this fine and fast growing city."

The list of exhibitors at Dallas is given below. This is as of March 27:

A-B Stove Co., Battle Creek, Mich.
 Allen Manufacturing Co., Nashville, Tenn.
 American Gas Products Corp., New York, N. Y.
 American Heater Corp., St. Louis, Mo.
 American Schaeffer & Budenberg Corp., Brooklyn, N. Y.
 The Arco Co., Cleveland, Ohio.
 Barber-Greene Co., Aurora, Ill.
 Barco Mfg. Co., Chicago, Ill.
 Beckwith Co., Dowagiac, Mich.
 Birmingham Stove and Range Co., Birmingham, Ala.
 B-Line Boiler Co., Cleveland, Ohio.
 Bridge & Beach Mfg. Co., St. Louis, Mo.
 The Bristol Co., Waterbury, Conn.
 The Bryant Heater & Mfg. Co., Cleveland, Ohio.
 Browning Ferris Co., Dallas, Tex.
 The Chaplin-Fulton Mfg. Co., Pittsburgh, Pa.
 Clark Bros. Co., Olean, N. Y.
 George M. Clark & Co. Division
 American Stove Co., Chicago, Ill.



Layout of exhibit hall for natural gas Convention at Dallas, May 7 to 10

- The Cleveland Gas Burner & Appliance Co., Cleveland, Ohio.
- The Cleveland Trencher Co., Cleveland, Ohio.
- Columbus Heating & Ventilating Co., Columbus, Ohio.
- The Connersville Blower Co., Connersville, Ind.
- The Continental Supply Co., St. Louis, Mo.
- Crane Co., Chicago, Ill.
- Dallas Foundry, Dallas, Tex.
- Dangler Stove Co. Division
American Stove Co., Cleveland, Ohio.
- Darling Valve & Mfg. Co., Williamsport.
- Dearbon Chemical Co., Chicago, Ill.
- Detroit Stove Works, Detroit, Mich.
- S. R. Dresser Manufacturing Co., Bradford, Pa.
- The Estate Stove Co., Hamilton, Ohio.
- The Fisher Governor Co., Marshalltown, Iowa.
- The Foxboro Co., Foxboro, Mass.
- Frick-Reid Supply Co., Tulsa, Okla.
- General Gas Light Co., New York, N. Y.
- Gillespie & Schwan, Inc., Dallas, Houston, San Antonio.
- J. H. Grayson Co., Athens, Ohio.
- Guardian Gas Appliance Co., Cleveland, Ohio.
- W. K. Henderson Iron Works & Supply Co., Shreveport, La.
- Hinderliter Tool Co., Tulsa, Okla.
- Home Incinerator Co., Milwaukee, Wis.
- Hope Engineering & Supply Co., Mt. Vernon, Ohio.
- Hotstream Heater Co., Cleveland, Ohio.
- Ingersoll-Rand Co. of Texas, Dallas, Tex.
- International Business Machines Corp., New York, N. Y.
- The Tabulating Co. Division.
- International Time Recording Co. Division.
- Dayton Scale Co. Division.
- Lattimer-Stevens Co., Columbus, Ohio.
- Johns Manville Corp., New York, N. Y.
- Koppers Construction Co., Pittsburgh, Pa.
- Linde Air Products Co. and Associated Companies.
- Lone Star Gas Co., Dallas, Texas.
- Lunkenheimer Co., Cincinnati, Ohio.
- Lee B. Mettler Co., Los Angeles, Calif.
- Metric Metal Works, Erie, Pa.
- Michigan Stove Co., Detroit, Mich.
- Mid-West Incinerator Corp., Chicago, Ill.
- Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.
- Moore Brothers Co., Joliet, Ill.
- Mueller Co., Decatur, Ill.
- National Supply Co.
- National Tube Co., Pittsburgh, Pa.
- Naylor Spiral Pipe Co., Chicago, Ill.
- New Process Stove Co. Division.
American Stove Co., Cleveland, Ohio.
- The Oil Well Supply Co., Pittsburgh, Pa.
- The Ohio Foundry and Mfg. Co., Steubenville, Ohio.
- Payne Furnace & Supply Co., Inc., Beverly Hills, Calif.
- Pittsburg Water Heater Co., Pittsburgh, Pa.
- Pittsburgh Equitable Meter Co., Pittsburgh, Pa.
- Refinery Supply Co., Tulsa, Okla.
- Reliable Stove Co. Division.
American Stove Co., Cleveland, Ohio.
- The Ridge Tool Co., Elyria, Ohio.
- Robinson Orifice Fitting Co., Los Angeles, Calif.
- Geo. D. Roper Corp., Rockford, Ill.
- Ruud-Humphrey Water Heater Co. of Texas, Dallas, Tex.
- Sala Heater and Mantel Co., Dallas, Texas.
- Servel Sales, Inc., Evansville, Ind.
- M. B. Skinner Co., Chicago, Ill.
- J. B. Slattery & Bro. Inc., Brooklyn, N. Y.
- Southwestern Pipe Joint & Engineering Co., Birmingham, Ala.
- Spencer Thermostat Co., Cambridge, Mass.
- Sprague Meter Co., Bridgeport, Conn.
- Troop Water Heater Co., Pittsburgh, Pa.
- Victaulic Co. of America, New York, N. Y.
- W-K-M Co., Inc., Houston, Texas.
- Wailes Dove-Hermiston Corp., Tulsa, New York, Houston.
- Walworth Co., Inc., New York, N. Y.
- Ward Heater Co., Los Angeles, Calif.
- Webster Engineering Co., Tulsa, Okla.
- Westcott Valve Co., Inc., East St. Louis, Ill.
- Westcott & Greis, Inc., Tulsa, Okla.
- Western Gas, Los Angeles, Calif.
- West Park Foundry Co., Cleveland, Ohio.
- Worthington Pump & Machinery Corp., Buffalo, N. Y.

COMPANIES URGED TO REPORT RESUSCITATION CASES

A SPECIAL appeal has been issued to all member companies of the A. G. A. to send to Headquarters reports of successful resuscitation cases performed by employees. All employees of member companies who save a life from gas asphyxiation by the prone pressure method of resuscitation are eligible for the McCarter Medal, one of the most highly prized awards of the gas industry.

A larger number of McCarter Medals are given each year, but the Accident Prevention Committee, which has charge of the awards, is anxious that every company submit applications for every case.

Suitable forms may be had from A. G. A. Headquarters upon request.

Pennsylvania Section Sets Enviably Record

No Gas Shortage During Year; Mergers Make for Better Service to the Public

By S. W. MEALS

Vice-Chairman, Natural Gas Dept., A. G. A.; President, Carnegie Natural Gas Co., Pittsburgh, Pa.

A STATEMENT of the conditions of the natural gas industry and its accomplishments during the year just passed naturally compels us to include the States of West Virginia, Ohio, Kentucky and the western part of New York, for the reason that the States named are so interlocked with networks of pipe lines that what affects one, usually reflects on all.

Gas produced in Kentucky may cook our breakfast in Pittsburgh; West Virginia gas may be supplying a gas-fired refrigerator in Cleveland, Ohio; gas produced in Ohio and Pennsylvania may be carrying the heating load in Wheeling, W. Va., or Pennsylvania gas firing a glass pot in Morgantown, W. Va. Even Buffalo, N. Y., has to depend on gas produced in Pennsylvania for a large part of its supply. There are 35,000 miles of natural gas lines in this great network. Pennsylvania leads all the other States in mileage of natural gas pipe lines, having about 17,000 miles which supply close to 370 cities and towns with an average daily flow of more than 400,000,000 cu.ft.

The outstanding accomplishment is the

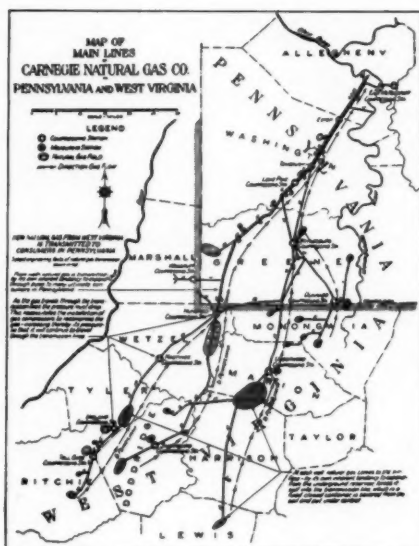
fact that with all this network of lines to their millions of domestic consumers, there was no gas shortage during the year. That the gas utilities were able to give better service to the consumers this past year is largely due to the consolidation of a number of the companies and the tying in of their pipe line systems, which gave the managements a more flexible control and a more uniform pressure over their distribution system.

During 1927 the Columbia Gas & Electric Company acquired the Cumberland & Allegheny Gas Company and a number of distribution and producing companies and properties in Ohio and Kentucky. This corporation is now the largest producer and distributor of natural gas in this country—or in fact, the world—and because it is the largest will assure its customers better service and a continued supply of this most wonderful fuel with which Dame Nature has so wonderfully blessed us.

The West Penn. Public Service Company, of Fairmont, W. Va., acquired the Randall Gas Company and the West Vir-



Construction of 40-inch line to carry by-product gas to steel mills



Reproductions of maps which convey an idea of the vast net-work of natural gas mains in the territory surrounding Pittsburgh, Pa.

ginia Utilities Company, which companies supplied the City of Morgantown, W. Va., and have tied in or interlocked these pipe line systems into one system, enabling this company better to care for their consumers.

During the year one of the large steel companies in the Pittsburgh district has completed its final units of by-product ovens and from their present output of by-product gas will produce for the year more than sixty billion cubic feet of 500 B.t.u. gas. The installation of this coke plant—from which this large production of gas is recovered—no doubt is the greatest single conservation unit in this country, as the gas and tar recovered was formerly going up in smoke in the beehive ovens in the Connellsville regions of this State.

The Carnegie Natural Gas Company constructed more than ten miles of 40" and 48" pipe lines to the steel works to distribute this by-product gas. The pipe used in the construction was plain and hammer-welded and connected with Dres-

ser couplings. The use of this by-product gas in open hearth furnaces has released natural gas which will now be used for domestic and industrial purposes.



Another map of natural gas lines in the territory described by Mr. Meals

California Makes Real Progress in 1927

Conservation of Natural Gas Is One of Many Developments of the Past Year

By A. B. MACBETH

President, Southern California Gas Company, Los Angeles, Calif.



A. B. Macbeth

EXTENSIVE developments and wildcat drilling during 1927 resulted in greatly increased casinghead gas production in three fields; the discovery of a new dry gas field, and the maintaining of second place by California in natural gas production in the United States.

The Ventura field, located seventy-five miles northwest of Los Angeles, continued to hold first rank in casinghead gas production in the state, reaching a peak production of two hundred and fifteen million cu.ft. per day during September. This prolific production comes from deep wells, some of which are drilled to a depth of 7100 feet and contain unconsolidated oil sands with a thickness in excess of 2500 feet. During January, the Southern California Gas Company completed additional facilities to handle fifteen million

cubic feet per day, and in June, the Ventura Fuel Company completed a seventy-mile fifteen-inch and sixteen-inch (O.D.) pipeline to Los Angeles, also erecting a compressor plant capable of delivering fifty-two million, five hundred thousand cubic feet per day, with four hundred pounds initial and one hundred pounds terminal pressure. These installations increased the pipeline deliveries from this field to the Los Angeles metropolitan area to one hundred and fifteen million cubic feet per day.

Along the ocean front at Huntington Beach a large number of wells were drilled within a small area. This resulted in a peak production several months after extensive drilling activities commenced. Apparently the structure extends under the ocean and the rare occurrence of an oil field above the ocean floor was prevented only by legal difficulties.

After drilling fourteen expensive dry holes, Seal Beach oil field was discovered in July, 1926. Discovery of additional sands during the summer of 1927 in the



© 1927 Spence Airplane Photo

The Alamitos Heights area of Seal Beach gas and oil field



© 1927 Spence Airplane Photos
Elk Hills Field

northern section (Alamitos Heights) of the field led to the worst example of town lot drilling California has yet experienced, resulting in a very rapid rise in production and a corresponding rapid decline towards the end of the year. Pipelines and compressor facilities were increased in both of these fields to handle the additional gas production.

Wildcat drilling, extending over a period of years and accompanied by several disastrous blowouts, finally resulted in the discovery of a dry gas field on the Butonwillow anticline. This structure is located ten miles north of the famous Elk Hills oil and gas field, which contains the largest dry gas reservoir known in the state. At present, producing wells are capped owing to lack of pipeline facilities and want of immediate market. The field is characterized by high rock pressures, approximating one thousand and twenty-five pounds.

During 1927, approximately 2,725,000 people out of a population of 3,250,000 in Southern California were served with natural gas produced in the Athens-Rosecrans, Belridge, Brea-Olinda, Buena-Vista Hills, Coyote Hills, Dominguez, Elk Hills, Huntington Beach, Santa Fe Springs, Inglewood, McKittrick, Montebello, Richfield, Santa Maria, Seal Beach, Signal Hill, South Mountain, Torrance, and Ventura fields.

In the Los Angeles metropolitan area, 385,000 consumers experienced a change

from a mixed gas of 850 B.t.u. to a natural gas of approximately 1100 B.t.u., beginning with the month of January. This necessitated a general survey and adjustment of all gas appliances and a large number of men are employed by the two gas companies operating in Los Angeles, making a systematic adjustment of every appliance. This work will be completed about July 1, 1928, taking in all about eighteen months.

During the latter part of the year, 1927, Governor Young appointed an oil and gas conservation committee, one of the members of which was Senator William J. Carr, who is a member of the California Railroad Commission. The committee worked untiringly with the larger oil companies in an effort to have them partially shut in the production of oil and gas in the oil and gas fields in California where it could be done with the least injury to all concerned, the primary purpose of which is to conserve natural gas which would otherwise blow into the atmosphere.

During the early part of March, after several meetings with officials of the larger oil companies operating in the state and representatives of the larger natural gas companies and a careful survey and study of the conditions, the oil companies put into operation a plan whereby several of the oil and gas fields in California were partially shut in. As a result thereof, approximately ninety-five million cubic feet of natural gas and

(Continued on page 250)



Compressor station (right center) of Ventura Ave. field



Left: Grading right of way and stringing pipe on 20-inch line from Pampa, Texas, to Wichita, Kansas. Right: Four 12-inch lines cross river at this point, connecting with 20-line on other side

Oklahoma Continues to Forge Ahead

Many Interesting and Important Developments
Have Occurred in the Past Year

By H. L. MONTGOMERY

Manager, Cities Service Gas Company, Bartlesville, Okla.



H. L. Montgomery

made public by the United States Bureau of Mines.

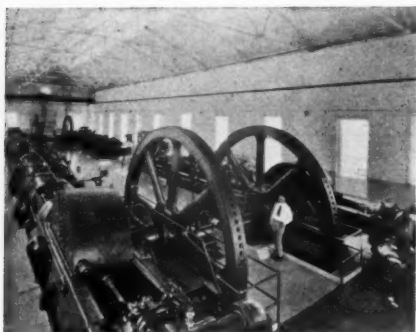
Oklahoma, being one of the richest states in the Union in the matter of natural resources, has been quick to realize the value of natural gas for industrial and domestic purposes. During the year just past natural gas franchises were granted to twenty-seven cities in the state, and numerous industrial and manufacturing concerns have adopted this natural fuel as their unit of heat and power. At the same time 228 cities and towns in the state were being served with natural gas by eighty-three distributing companies.

Several hundred miles of gas pipe lines have been constructed in Oklahoma during this same period, and millions of dollars have been expended in construction

and expansion work. Perhaps the most outstanding development in this connection has been made by the Cities Service Gas Company, who on January 1st, 1928, formally opened their 20-inch line extending through Oklahoma from Pampa, Texas, to Wichita, Kansas. This line, together with four new compressor stations that were erected, represents an expenditure of more than \$15,000,000. The Oklahoma Natural, with more than 2000 miles of lines, and supplying gas to fifty of the principal cities in eastern and southern Oklahoma, has also had an active construction program, having recently completed a 16-inch line from the Chickasha Field to Oklahoma City, which parallels a line already in service.

Through the recent acquisition of the Southern Kansas Gas Company and the gas interests of the Oklahoma Gas and Electric, their number of distribution properties has been greatly increased. Recent announcements include gas service to fourteen additional Oklahoma cities which were formerly served by the Oklahoma Gas and Electric. The Oklahoma Natural is now numbered among the largest gas producing, transporting, and distributing companies in the United States.

The Lone Star Gas Company is operat-



Interior of Kellyville compressor station of Oklahoma Natural Gas Corp.

ing rather extensively in Southern Oklahoma, having constructed a number of lines during the last few months, connecting its main line system with Frederick, Davidson, Waurika and other Oklahoma towns. Service is given through the Community Natural Gas Company, which is a subsidiary of the Lone Star. The Western Counties Gas Company natural gas line has been completed recently bringing gas to Cordell, Clinton, Hobart and other cities in this area. Supply for these communities is drawn from the Sayre field in Beckham County. Several mergers have been recorded during the year, this making available millions of dollars of new capital for further extension of gas service in Oklahoma towns that are still depending on coal and other fuels.

There has been a considerable increase in investment in gas properties and on mileage of gas pipeline. At the end of 1927 there were approximately 7000 miles of gas pipeline in Oklahoma, figured on a three-inch equivalent basis. This, together with compressor stations and the necessary operating equipment, represents an investment of nearly \$70,000,000, an increase of 15 per cent over 1926.

The ever-growing demand for this clean and economical fuel, coupled with favorable financial conditions, has enabled gas companies to extend service rapidly throughout the state. There is

every reason to believe that Oklahoma will continue to forge ahead and hold her position in the natural gas industry of the United States, as she has done in the past.

More Natural Gas is Used for Generating Electricity

THE increased use of gas for the generation of electricity illustrates a significant development of public utility power plants in areas where gas is naturally available. In January, 1919, according to government reports, the average daily consumption was 35,500,000 cu.ft. In December, 1927, this average had risen to 160,500,000 cu.ft.

In many months the total was vastly greater. For instance, in September, 1927, the average daily consumption of gas was 218,900,000 cu.ft. In October the total was 210,000,000 cu.ft. and in October, 1924, the total was 198,800,000 cu.ft. The year 1927 constituted a record, however, with a daily average consumption of 174,000,000 cu.ft.

The average total for 1926 was 138,500,000 cu.ft., and for 1919 the average daily total was 58,600,000 cu.ft. This relation of the natural gas industry to the production of electric power seems to be rarely taken into consideration, but a comparison of the figures shows the development.

Texas is the greatest user of natural gas for this purpose, with California second and Kansas third.

Gas Gets Sea Legs

THE first sea-going gas water heater is installed in the yacht, "Fan Kwai," owned by Col. H. H. Rogers, according to M. M. Scott, of the Ruud Manufacturing Co., Pittsburgh, Pa.

In addition to the water heater, the galley is equipped with a gas range. Fuel is supplied by a gas-making machine.



Kansas Natural Gas Developments During '27

Increased Sales and Diminishing Supply Presents Problems to the Operators of Gas Companies in this District

By W. H. MCKENZIE

Vice-President and General Manager, The Wyandotte County Gas Company, Kansas City, Kansas

THE year 1927 saw a still further depletion of the natural gas resources of Kansas which were once considered practically inexhaustible.

Of course, new wells were drilled in certain known areas, but the production of these wells was far lower than the original one drilled in these same fields. Kansas producers are now devoting their efforts to more efficient recovery from existing fields and are glad to connect small wells which formerly would have been considered useless. This policy has reacted favorably toward the industry as it has brought closer to home the necessity of conserving the remaining supply.

A wild-cat well in McPherson County came in during the year. This well has started some drilling, but it remains to be seen whether or not this field will prove to be a real producer.

In the extreme southwest part of the state, considerable prospecting has been done. Small flows of gas were located near Liberal and near Hugoton. Both of these towns are being supplied from these wells. These cities will use all of the gas thus far available. Due to its great distance from any market, it is doubtful if this field will develop.

However, the picture is reversed when we consider the markets. Kansas has had a very prosperous year and consequently its industries are operating on a normal basis. As the growth of population has also been normal the gas companies have all enjoyed increases in both industrial and domestic sales.

In the four largest cities of Kansas—Kansas City, Wichita, Topeka and Hutchinson—the local distribution companies have sold practically all of their large industries gas for fuel purposes. Many of

these industrial consumers are using gas for the first time. These consumers are especially well pleased with the results obtained to date.

Throughout Kansas all companies have been concentrating on increasing the domestic load by the sale of house heating appliances. The generally increased consumption per customer reflects the results of this work.

Obviously, the increased demand for gas, coupled with the diminishing supply, presents a serious problem to the operator. It means that more and more gas must be imported from foreign fields.

During 1927 the largest single transportation project ever attempted was started and completed. This is the 250 miles of 20-inch line from the Panhandle field to Wichita, built by the Cities Service Gas Company. This large project has assured those markets served by this corporation of sufficient gas for years to come. Without a doubt, the completion of this project was the outstanding feature of gas developments in Kansas during 1927.

The past year has seen a change in ownership of several properties. A group of small independent operators in southwestern Kansas placed their properties together and formed the Southern Kansas Gas Corporation. This corporation has since become a subsidiary of the Oklahoma Natural Gas Company. Several municipal plants have failed during the year and sold their holdings to private interests.

The Wyandotte County Gas Company, in Kansas City, Kansas, has gone forward in the past year with an extensive improvement program. In 1927 approximately \$300,000 was spent in new lines and improvements and it is estimated that

approximately this same amount will be spent this year. The greater part of this money was spent for main lines that have been constructed to take care of the additional industrial consumers.

The following is the number of feet of various sized lines which were laid in 1927: 306 ft. of three-inch, 4944 ft. of four-inch, 7661 ft. of six-inch, 922 ft. of 12-inch, 6006 ft. of 16-inch and 21,890 ft. of 24-inch.

After the completion of the Cities Service Gas Company's lines from the Amarillo field, the Wyandotte County Gas Company set about contracting for industrial gas which was available in Kansas City, Kansas. At this time contracts for approximately 600,000,000 cubic feet of gas a month have been signed.

Practically all of the large packing houses located in Kansas City, Kansas, now are, or soon will be, burning natural gas and contracts which have recently been signed will enable the company to serve a large refinery and soap factory located in our city.

Among the large firms which have recently contracted to use natural gas are: The Cudahy Packing Co., which will use approximately 4,000,000 cubic feet of gas a day; Armour and Company, which will use approximately 6,000,000 cubic feet a day; Wilson and Company, packers, which will use approximately 3,000,000 cubic feet a day; the Sinclair Oil Company refinery with a capacity of about 4,000,000 cubic feet a day, and the Procter and Gamble Soap Manufacturing Co., which will use approximately one-half million cubic feet of gas a day.

The above developments are those of general interest to the gas fraternity which have occurred since our last meeting in Cincinnati.

Stone & Webster in Paris

STONE & WEBSTER, Inc., has announced the opening of a European office, at 2, Rue des Italiens, Paris, with James F. Case in charge.

Colorado Company Prepares for Natural Gas from Texas



WITH the laying of a natural gas line near Colorado Boulevard and Exposition Street, Denver, early in February, the Public Service Company of Colorado started the task of preparing that city for the reception of natural gas from the Amarillo, Tex., field.

It is expected that the new \$22,000,000 gas line from Denver to Amarillo, which will extend for 340 miles, will be completed by September 1, and work of changing from artificial to natural lines will be rushed during the intervening months.

The company has divided the city into districts in order to make the changes with the least possible inconvenience to its customers and a \$2,000,000 budget has been set aside to finance the changes within the city during the next five years.

Work on the main line from Amarillo is progressing rapidly with 96½ miles already completed, leaving approximately 240 miles of pipe still to be laid.

A. S. M. E. Will Hold Meeting on Materials Handling

THE Materials Handling Division of the American Society of Mechanical Engineers will hold a national meeting in Philadelphia, Pa., April 23 and 24 at the Hotel Benjamin Franklin. This is the first national meeting on materials handling.

What the Testing Laboratory Means to the Natural Gas Industry

By R. M. CONNER

Director, American Gas Association Testing Laboratory



R. M. Conner

THE value of the Testing Laboratory to the natural gas industry has become well established, even during the short period of its existence. As an approval agency, it has been responsible for raising the standards of construction and accomplishing great improvements in the performance of approximately 7000 domestic appliances so that they will now burn natural gas with greater efficiency and safety than ever before. In addition to these activities, the Laboratory is also conducting the most comprehensive program of research on mixing gases that has ever been undertaken anywhere in the country.

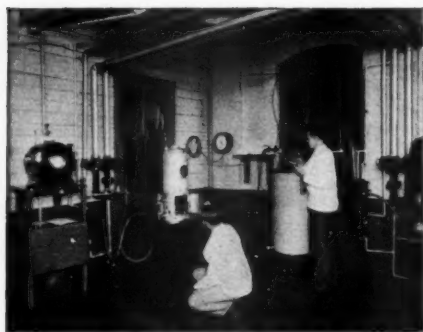
Prior to the establishment of the Testing Laboratory, the need for some kind of national control over the gas appliance situation was recognized. Realizing this situation, many gas companies had established and maintained testing laboratories of their own. These agencies did, and still do serve a very useful purpose particularly in the solution of many production problems. As far as gas appliances were concerned, however, their findings generally took into consideration only local conditions. This situation finally resulted in the manufacturer having to meet so many different requirements that any comprehensive program of standardization was impossible. This condition naturally contributed very materially to the manufacturer's production costs and added to his manufacturing difficulties.

Standardization of manufacturing processes represents one of the greatest possibilities for increasing efficiency and

lowering production costs existing in the gas appliance manufacturing business today. It is reported that one gas range manufacturer produces more than 8000 different models. The Manufacturer's Section of our Association could serve a very useful purpose by working out a constructive program of standardization and assisting the appliance manufacturers in applying it.

The large majority of domestic gas appliances were developed in manufactured gas fields. This fact makes it even more important that they be approved for natural gas usage before their installation. That a real need existed for a service of this kind is best demonstrated by the results of a recent investigation of Laboratory test records from which it was shown that 47.6 per cent of all domestic gas appliances submitted for test failed to meet our combustion requirements and that 99.7 per cent of them were not being built to the standards which have been established by the gas industry and interested governmental experts.

In testing domestic appliances for approval the Laboratory utilizes three common kinds of gases, namely, coke oven, water, and natural gas. These three classes cover the entire field sufficiently well to insure that any appliance operating satisfactorily on all of them will meet any usual gas service condition even more successfully. In addition to the high degree of flexibility required in accommodating the various kinds of gases supplied, approval tests are made at different pressures without any compensating changes in adjustment. For natural gas the normal or average pressure chosen is seven inches and the usual pressure variations are 50 per cent both ways from this figure. Approval of any appliance indicates that it will not only burn satisfactorily the dif-



A. G. A. Laboratory scene

ferent kinds of test gases specified, but that it will accommodate extreme pressure variations from 1.75 inches for manufactured gas to 10.5 inches for natural.

Appliances passed by the Testing Laboratory are identified by its Blue Star Seal of Approval. This emblem should not be regarded as an index of the monetary value of an appliance, but rather as a certification to the effect that it meets the industry's accepted standards for safe and efficient operation and reasonably durable construction.

Our testing program is not designed to give one manufacturer of approved appliances a distinct sales advantages over another. The support it has received from our gas company members and progressive dealers does give the manufacturer of approved equipment a decided sales advantage over those that do not produce approved types of equipment. In the last analysis, the Laboratory's Seal of Approval certifies that the appliance to which it is attached is fundamentally sound in construction and design. Added features or finishes necessitating a higher sales price than for models satisfying our basic requirements and reflecting the individual preferences of the purchaser must be sold to him on their merits. To decide the value of these items is not within the scope of the Laboratory's work.

The Laboratory's research on mixed gases is of vital importance to the natural gas industry. The practice of mixing

gases not only makes it possible to augment dwindling supplies of natural gas, but it also permits the use of gases often available as by-products of other industries. In short, the mixing of gases will tend to increase the flexibility of gas producing equipment both from the standpoint of economy and plant operation. This cannot help but carry the gas industry toward its ultimate goal, that of making gas the universal fuel wherever heat is required.

Realizing that the mixed gas investigation should be national in scope, the Mixed Gas Research Committee has ruled that at no time shall any part of it be confined to the solution of problems of a purely local character. This policy will result in securing fundamental information that should be of assistance to any gas company interested in such problems, regardless of its present location and methods of producing or distributing gas.

From the utilization standpoint the fundamental considerations which affect the mixing of gases are specific gravity, pressure, heating value, and chemical composition variations. Isolating each one of these factors by keeping all others constant during the various tests will result in securing basic data that can be satisfactorily applied to any given condition.

At the present time, the Laboratory has completed practically all of its research work connected with a study of the effect of varying specific gravity. Present indications seem to point to the fact that a 10 per cent decrease in gravity and a 20 per cent increase can be satisfactorily met by the usual run of domestic appliances without compensating changes in their adjustment. These results were obtained on manufactured gas and are to be verified by using natural.

The Laboratory is now studying the effects on the utilization of gas for industrial and domestic purposes by mixing blue and natural gases. Later on, the feasibility of enriching manufactured gas with natural will also be investigated. The

(Continued on page 250)

Why Convention Attendance Is Important

History of Associations in the Natural Gas Industry Reveals Gigantic Strides Made in 23 Years

By COL. M. W. WALSH

Superintendent, Gas Distribution and Construction, Louisville Gas and Electric Co., Louisville, Ky.

AS we approach the annual natural gas convention for the 23rd time, my memory harks back to the infancy of the Department, then known as the Natural Gas Association.

The organization had its inception in the small town of Ottawa, Kans., at a casual meeting of E. C. Becker, Cliff Sears, and myself. We discussed the value of an association of all the men who, like us, regarded the natural gas industry as our very life. At my suggestion, Mr. Sears called a meeting of the managers and superintendents of the various gas companies controlled by the Kansas Natural Gas Co., of which Mr. Sears was general contracting agent.

That meeting was a high spot of my memory. I recall it well. It was held at the Midland Hotel in Kansas City, Mo., and was attended by 13 men. We were superstitious, and the fact that we had 13 men around the dinner table caused no little worry. We got away from the bugaboo, however, by inviting an obliging traveling salesman to join us. He accepted and repaid us by giving his views on gas.

The advisability of a national association was discussed, and it was decided to go ahead. I had the pleasure of nominating Kerr Mitchel, of St. Joe, Mo., for temporary chairman, and he later became first president of the Natural Gas Association.

The following year our convention was again held at Kansas City, in a storeroom, 25 ft. by 75 ft. It was a hot session, even for gas men, for when the supply men got under way with their burner displays, we had to adjourn. I recall that at our meeting at Joplin a banquet was held. We

sat around a long table and sang songs, being led by James Linn, of Detroit. Our entertainment consisted of all members attending a five-cent air dome.

The following decade saw rapid development of the natural gas industry, and great good resulted to both employers and employees by the exchange of ideas at the conventions. Gas men in those days were handicapped by the lack of textbooks and tables of measurements and dimensions. Numerous problems arising had to be met in a practical manner, which of necessity had to produce satisfactory results. There was not a great deal of theoretical knowledge available and when a problem for which there was no known solution arose, gas men were forced to rely on their own ingenuity and past experience. How different it is now! A problem is not awaited, but is wilfully created in a laboratory and then through research is solved. When a problem in our daily work arises, the solution is at hand.

It has been my good fortune, and I am exceedingly proud of the privilege, to have attended every annual convention from the time the organization was an association in itself down through the present when it is a department of the A. G. A. Out of my experience in these yearly sessions, I can give no better advice to the younger men than to urge them to attend each year, for through contact with their fellow men, they will learn much.

My pride in the Natural Gas Department is exceeded only by that of having for 22 years been affiliated with Byllesby, an organization recognized as a true pioneer in the natural gas industry.

Conference on Gas and Coke Heat Held at Yale

A CONFERENCE on industrial gas and coke heat was held at Yale University under the direction of the Mechanical Engineering Department on March 21. The meeting was arranged in cooperation with the Manufacturers Ass'n of Conn.

On the program were the following papers: "Fundamental Facts in the Coke Forming Process," by H. A. Curtis, professor of Chemical Engineering, Yale University.

"Combustion Characteristics of Coke," by L. E. Seeley, mechanical engineering department, Yale University.

"Gas Furnace Construction," by W. P. Eddy, Geometric Tool Co., New Haven, Conn.

"Outstanding Installations in Industrial Gas Heat," by E. G. deCoriolis, Combustion Utilities Corp., New York, N. Y.

"High Temperature Control as Applied to Gas Furnaces," by S. P. Rockwell, S. P. Rockwell Co., Hartford, Conn.

"Industrial Use of Gas Furnace," by H. F. Cosgrove, Wallace Barnes Co., Bristol, Conn.

"Gas Carburizing," R. W. Woodward, S. P. Rockwell Co., Hartford, Conn.

"Temperature Control for Gas-Fired Furnaces as Related to Production Costs," by A. M. Stock, Partlow Corp., New York, N. Y.

"Availability and Uses of Coke," by H. J. Rose, The Koppers Co., New Haven, Conn.

"Oil Producer Gas," by A. J. Bassett, Bruce Macbeth Engine Co., Cleveland, Ohio.

"Coal Producer Gas," by Victor Windett, Wellman, Seaver, Morgan Co., Cleveland, Ohio.

"Gas-Fired Core Baking and Japanning Ovens," by M. B. Webber, Boston, Mass.

"Looking Ahead with Industrial Gas and

Coke," by H. O. Loebell, Surface Combustion Co., New York, N. Y.

Interesting features on the program were the showing of the Consolidated Gas Co. of N. Y. film on the "History, Production, and Utilization of Gas in Industry," and The Koppers Company film, on "Production of Coke."

J. A. Norcross, vice-president and general manager of the New Haven Gas Light Co., led a general discussion.

Super-Salesmanship

WILLIAM J. WELSH, president and general manager of the New York & Richmond Gas Company, credited the sale of a modern gas range the other day to the prompt use of an inhalator operated by the emergency crew of the gas company.

Dr. Arthur S. Driscoll of the staff of St. Vincent's Hospital, Staten Island, who has been conducting a series of "first aid" demonstrations on prone pressure resuscitation before groups of Campfire Girls and Boy Scouts, discovered that one of his patients in the maternity ward of the hospital, the wife of a prominent local bank official, had given birth to a child which, to all appearance, was without life.

Dr. Driscoll immediately called the gas company and within a few minutes the emergency crew was at work over the apparently lifeless body of the infant. Breathing was restored with the use of the inhalator within a short while. At last reports, the child was well on the way towards a healthy, and presumably, happy existence.

The following day the mother of the child suggested to her husband that he immediately visit the gas company to extend his appreciation and to buy the best gas range on the floor—which he subsequently did.



Other cities have had Blue Star houses, but Portland, Ore., secured a big star lighted with Neon gas in blue which stands up in the sky and creates a great deal of comment. During the Christmas season the electric companies were encouraging decoration and one family ordered a big "star of Bethlehem." It is this star which now advertises the appliances approved by the A. G. A. Laboratory.

Program Eastern States Meeting Announced

Geographic Division of American Gas Association
Will Meet at Newark on April 4-5

A RECORD attendance is expected at the sixth annual meeting of the Eastern States Gas Conference to be held at Newark, N.J., April 4-5. This geographic division of the A. G. A. will convene in the auditorium of The Public Service Corporation building.

A program consisting of many valuable papers covering all phases of present-day problems has been announced.

It is as follows:

April 4—10:00 A.M.

Welcome, by T. N. McCarter, president, Public Service Corp. of New Jersey.

Address, by H. H. Newman, president of the Conference.

Report, secretary-treasurer, J. Calhoun Smith.

Committee Reports.

Address, by Alexander Forward, managing director, A. G. A.

"Increasing the Use of Gas in the Home," by J. L. Farrell, agent, Public Service Electric & Gas Co., Passaic, N. J.

Annual Meeting of New Jersey Gas Ass'n.

April 4—2:00 P.M.

"Dehydration," by E. F. Coffman, Camden Coke Co.

Presentation of McCarter Medals, by T. N. McCarter.

"Collections with Good Will," by Herman Benz, agent, Public Service Electric & Gas Co., Paterson, N. J.

"Traditions of the Gas Industry," by P. H. Gadsden, vice-president, The United Gas Improvement Co., Philadelphia, Pa.

April 5—10:00 A.M.

Address, by Oscar H. Fogg, president, A. G. A.

"Common Sense in Advertising," by Chas. W. Person, secretary, Publicity and Advertising Section, A. G. A.

"The Human Side of the Gas Business,"



H. H. Newman



G. I. Vincent

by G. I. Vincent, vice-president, The Syracuse Lighting Co., Syracuse, N. Y.

"Cottrell Electrical Precipitation Processes as Applied to the Gas Industry," demonstration and talk, by N. W. Sultzer, Research Corp., New York, N. Y.

General description of new water gas plant of The Public Service Electric and Gas Co., by H.

H. Ferris, to be followed by general inspection of plant. Transportation will be provided.

April 5—2:00 P.M.

"Public Service Accounting System," by J. L. Conover, auditor, The Public Service Electric and Gas Co., Newark, N. J.

On the evening of the 5th., the Conference will hold its annual banquet at the Robert Treat Hotel, with President H. H. Newman as toastmaster, and Rev. Gill Robb Wilson, national chaplain of American Legion, as the speaker.

Peoples Company Cuts

Gas Rates in Chicago

THE Peoples Gas Light and Coke Co., Chicago, Ill., has announced a rate reduction, effective April 1. The new rates are as follows:

GENERAL RATE SCHEDULE

Minimum monthly bill including 400 feet of gas per month	60c
Next 49,600 cubic feet per month	90c per 1,000 cu.ft.
Over 50,000 cu.ft. per month	85c per 1,000 cu.ft.
Additional charge if bill is not paid in 10 days	10c per 1,000 cu.ft.

OPTIONAL RATE SCHEDULE

Readiness-to-serve charge	5c per day
First 5,000 cu.ft. used per month	8c per 100 cu.ft.
Over 5,000 cu.ft. per month	7.5c per 100 cu.ft.
Additional charge if bill is not paid in 10 days	1c per 100 cu.ft.

Virginia Utilities Ass'n Affiliates with A. G. A.



J. W. Hancock



A. B. Tunis

THE Public Utilities Association of Virginia has become affiliated with the American Gas Association through recent action of both associations. The A. G. A. now has a family of seventeen affiliated state and district associations and one geographic division.

The Public Utilities Association of Virginia was organized in 1902 with Edgar M. Funkhouser, of Roanoke, as the first president, J. W. Hancock, who now heads the Association, was the organization's second president. Until several years ago this organization was known as The Public Service Association of Virginia. In order to further enlarge the scope of its activities, the Association decided last November to employ a full time secretary and A. B. Tunis was appointed.

The address of the Association is 301 East Grace Street, Richmond, Virginia, and its officers are: President, J. W. Hancock; vice-president, W. J. McCorkindale; vice-president, A. W. Higgins; treasurer, A. H. Herrman; secretary, A. B. Tunis.

Laclede Employee Has Pugilistic Aspirations

CLIFFORD DOETZEL, auditing department of The Laclede Gas Light Company, has boxed his way to the flyweight championship of the Western Amateur Athletic Union for the second time.

Doetzel is a modest youth of 18 and one would never suspect his pugilistic tendencies. In April, he will seek the National Amateur Title at Boston and if he is successful there he will represent the United States in the Olympic meet at Amsterdam.

In the twenty months that he has been boxing before the public Doetzel has engaged in twenty-four contests and lost but three on decisions.

Public Service Men Win Coveted McCarter Medals

FOR having revived by the Schaefer prone pressure method of resuscitation victims of gas asphyxiation, three employees of The Public Service Electric and Gas Co., Newark, N. J., received McCarter Medals on February 7. A certificate for having assisted in a resuscitation was awarded another Public Service man on the same occasion. The presentations were made by John A. Clark, vice-president in charge of gas operation, Public Service Electric and Gas Company, in his office in the Newark Terminal Building. Also present were Allison J. Van Brunt, director of safety education, and officials of the gas department.

Benjamin Ashton, William Hand and J. W. Welpley each received a McCarter Medal and Dewey Hagen a certificate of assistance.

Ashton, a foreman of the Englewood distribution department, revived on September 10, 1927, a fellow employee, Domingo Moncavelli, of Tenafly, a caulker who was overcome while at work.

Hand, a foreman in the Plainfield distribution department, revived Patsy Rotola on July 12, last, in that city. Rotola, a caulker, was overcome while working in a trench on New Street, Plainfield.

Welpley and Hagen, assistants to the engineer, Essex Division, revived on September 29, last, John J. Leonard of East Orange. Inasmuch as the rules of the American Gas Association governing the disposition of the McCarter Medals permit the awarding of only one medal for a resuscitation, Welpley and Hagen drew lots to determine which would receive it. The former won. A certificate of assistance was prepared and presented to Hagen.

The McCarter Medal is donated by Thomas N. McCarter, President of The Public Service Electric and Gas Co.



J. A. Clark (left) honoring the four heroes.
A. J. Van Brunt is on the right

On the Firing Line of A. G. A. Activities

A Review of the Activities of the A. G. A. The Past, Present, and Future Months—High Spots in Brief and Otherwise

C. A. MUNROE AWARD

THE Executive Board of the A. G. A. has announced the establishment of the Charles A. Munroe Award to provide annually for the financial recognition of any individual who, in the opinion of the Executive Board, has made the most outstanding contribution during the year in the general interests of the gas industry.

The earnings of a fund of \$10,000 given by Charles A. Munroe will be available for this purpose.

As announced, the contributions to the industry's advancement may be presumed to include the following: Research, invention, operating methods or practices which reduce cost of manufacture and distribution, improved distribution or other service, increased sale of gas, development of new uses for gas, improved employee and public relations, promotion of safety, development of improved accounting practices, widening the field of gas-making materials, new methods of manufacture, finance, publicity, new gas works products and by-products, rates, etc.

An award committee of three members will be appointed each year by the Executive Board, and the award will be made every year.

Arthur Hewitt was chairman of the committee to consider the establishment of the award, and C. E. Paige and F. C. Freeman were members.

LAKE MOHONK CONFERENCE

THE fifth annual New York Regional Sales Conference will be held at Lake Mohonk, N. Y., May 21, 22, and 23.

P. B. Wiske, of The Brooklyn Union Gas Co., is chairman, and E. R. Acker, of the Central Hudson Gas & Electric Corp., is chairman of the program committee.



H. C. Cooper



W. J. Serrill

THE American Gas Association has been elected to a second membership in the American Engineering Standards Committee, and President Fogg has appointed two natural gas men as the representative and alternate in the persons of H. C. Cooper, of Pittsburgh, Pa., and J. D. Creveling, of New York, N. Y.

The A. G. A. already had a membership in the Committee, W. J. Serrill, of The United Gas Improvement Co., Philadelphia, Pa., being the representative. Chas. C. Atwood, of The Brooklyn Union Gas Co., Brooklyn, N. Y., is alternate.

The program of the Conference will appear shortly, and it will also be printed in full in the May issue of the MONTHLY.

A. G. A. JOINS INDUSTRIAL CON- FERENCE BOARD

THE American Gas Association has taken out membership in the National Industrial Conference Board, which entitles the A. G. A. to two representatives on their Board.

They are President Fogg and Treasurer Paige.

COORDINATION OF RESEARCH

THE special Committee on Coordination of Scientific and Marketing Research, recently appointed by the Executive Board, consists of the following members: Chairman, H. C. Abell, New York, N. Y.; Wal-

ter C. Beckjord, New York, N. Y.; F. C. Freeman, Providence, R. I.; A. W. Lee, Louisville, Ky.; B. J. Mullaney, Chicago, Ill.; C. E. Paige, Brooklyn, N. Y.; Edward Porter, Philadelphia, Pa.; T. R. Weymouth, Buffalo, N. Y.; H. L. Whitelaw, New York, N. Y., and E. D. Milener. Mr. Milener is also secretary.

The committee has held one meeting at Chicago, on March 12, and suitable announcements of its activities will be given in an early issue of the MONTHLY.

WINDOW DISPLAY SERVICE

THE Window Display Committee of the Commercial Section, R. M. Martin, New York, chairman, is starting a monthly Display Letter Service to help gas companies with their display problems. Illustrations of effective displays, together with construction sketches and descriptions will be given.

As outlined, the letter will cover water heating in April, refrigeration in May, cooking in June, incineration in July, and house heating in August.

(Continued on page 240)

International Congress on Illumination to be held in Sept.



W. H. Gartley



W. R. Addicks



J. A. Norcross

AN International Congress on Illumination to bring together the world leaders in the field of lighting from all parts of the world is to be held in the United States in September. The International Congress will open on September 7th with a tour by the foreign delegates to various American cities, will include the twenty-second annual convention of the Illuminating Engineering Society at Toronto, September 17-20, and close with the eighth session of the International Commission on Illumination to be held at Saranac Inn, N. Y., from September 22nd to 28th, inclusive.

The arrangements are being made under the auspices of the Illuminating Engineering Society and the U. S. National Committee of the International Commission on Illumination. The visitors will, according to present plans, be taken on a tour of a number of American cities which have made noteworthy applications in various branches of lighting. This tour will be scheduled so that the party can attend the Illuminating Engineering Society Convention at Toronto the third week in September. After the close of this meeting, the International Commission on Illumination will meet.

John W. Lieb, vice-president and general manager of the New York Edison Company, is serving as chairman of the Reception Committee. Julius Daniels, The Edison Electric Illuminating Company of Boston, is chairman of the Executive Committee in charge of arrangements.

The American Gas Association is ably represented on the United States Committee of the International Commission on Illumination by Messrs. W. R. Addicks, W. H. Gartley, and J. A. Norcross.

Laclede Interests Teachers in Refrigeration by Gas

APPROXIMATELY 35 science instructors in St. Louis high schools attended a recent demonstration of the gas refrigerator in the Home Service Auditorium of The Laclede Gas Light Company. The demonstration was conducted by Dyke Wilson, chief chemist.

Since this meeting, which was arranged by the commercial and public relations department of the Company, requests have been received for similar demonstrations before the Academy of Arts and Science and the science classes of two local high schools during school hours.

The plan to interest the instructors in the gas refrigerator, from a scientific standpoint, was carefully worked out by the company. Permission from the Board of Education was first secured and then a letter in the form of an invitation was written to each instructor. Colored diagrams of the working unit were prepared, together with a complete typewritten description of the functions of the device. These were distributed in order that the instructors would have references in the event they desired to explain the new refrigerators in the class rooms. A refrigerator in operation was on display in the auditorium at the time of the demonstration and Mr. Wilson used a dismantled unit in further explaining the device.

By acquainting technical minds in the community with the principles of gas refrigeration as it exists today, the Laclede feels that much can be accomplished in promoting this recent development.

Gas Man Presides at Dinner

THE Duke of York was the guest of honor at the recent annual banquet of the Incorporated Sales Managers' Association held at the May Fair Hotel, London. F. W. Goodenough, of the Gas Light and Coke Company, of London, Managing director of the British Commercial Gas Ass'n, and chairman of the Association, presided.



In the center are the Duke of York and Mr. Goodenough

Sales Allies—Their Value in the Present Age

A Careful Discussion of Retail Outlets in Relation to the Sales Program of the Gas Industry

By OSCAR H. FOGG

President, A. G. A.; Vice-president, Consolidated Gas Company of New York, N. Y.



O. H. Fogg

COOPERATIVE merchandising is not a matter upon which I profess any measure of specialized knowledge nor are my remarks based upon any outstanding record of experience or performance. They consist, in fact, of a somewhat elementary consideration of certain sales fundamentals, by one who disclaims any pretension to the role of an expert in the technique of merchandising.

Changing conditions affecting our domestic market are apparent to even the most casual observer.

Under the stimulus of an extended period of productive efficiency, competition in all lines has sharpened to the keenest edge. The speed of the industrial machine has reached a point where goods are being produced in greater volume than the purchasing power of the people can readily absorb. The result is a mad scramble for a part of the consumer's dollar—with business phrenologists frantically examining the head of the buying public to locate new bumps of resistance or susceptibility.

This situation is colorfully referred to in a recent issue of *Advertising and Selling*, in these words:

"The pathetic truth about a great deal of American salesmanship and sales-management today is that it consists of a lot of noise, enthusiasm, and expense without getting where we want to go. America today is one vast bedlam of salesmanship and salesmen; and the noise of their competitive shrieking, and the annoyance of their unrelenting, almost desperate tracking down of their prospects, is growing greater every year. It has reached, in the last

Presented at N. E. G. A. Meeting.

few years of so-called 'profitless prosperity,' a kind of hysteria. Never before have we known such terrific drives for sales, or such intense competition with such small profits."

We, in the gas business, have not been unaware of this condition.

Like others, we have felt the sharpening of the competitive struggle, and it has been recognized and considered from most, if not all, of its various angles and viewpoints. It is only to one of them, however, that these remarks are directed.

The opinion is ventured that even a casual survey of our domestic market will disclose that:

(a) We are realizing a slower rate of growth in the domestic than in any other field of gas utilization.

(b) Our largest group of unprofitable customers is among the domestic users of gas.

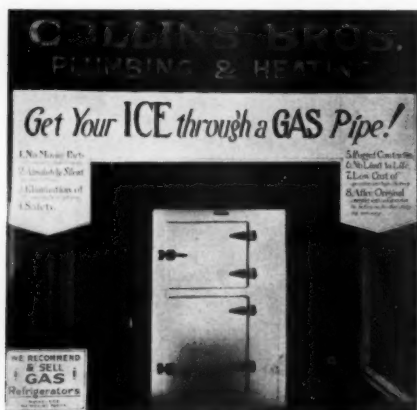
(c) The so-called saturation point has not even been sighted.

(d) We are faced with a dearth of sales outlets, and there are many undeveloped channels through which to promote the domestic use of gas.

Any comprehensive survey will disclose far more than this, but these are the facts most pertinent to my subject.

It is not necessary for me to emphasize that we are in violent competition for a fair share of the consumer's dollar; or that we must recognize as our competitors, not only articles of merchandise of a distinctly utilitarian character, but also those that border upon or are actually in the luxury class.

It seems reasonable to suppose that the pieces into which the consumer's dollar is broken up and turned loose among the necessities or luxuries of life, will take the smoothest path made for them. By every reason of economic wisdom, we believe that a part of that dollar should buy gas service. Perhaps some few of us still believe that this is so self-evident that we



St. Louis knows the value of cooperation from the allied trades

can depend upon our part of the dollar seeking us out. It will, however, do nothing of the kind. There are too many attractions waiting to beguile it; not only more radio trimmings, new and better gadgets for the motor car, and allurements of all kinds, but more directly competing goods designed for the performance of the daily household tasks and needs—a market which we have hitherto largely dominated, and in which we mistakenly assumed that our supremacy would remain unchallenged. The pathway of the dollar is lined with an infinite variety of countless attractions, each beckoning for its share, too.

The question is: Are we giving the owner of that dollar a fair chance to decide how much of it should be expended on our goods and service? Wherever he turns (and quite as often "she") he will find this competing merchandise invitingly displayed, not in one central store or at one headquarters, but in many, and usually set forth in such a way as to appeal to his interest and imagination—and to his desire to possess.

So it seems perfectly natural to ask if gas service, and the equipment that makes that service possible, is adequately represented in the market place? Or are we on the other hand, woefully lacking in sales outlets?

One of my friends, whose interest in this subject is well known, tells me that studies in this section of the country indicate that in point of retail outlets our business is outnumbered by our principal direct competitor to the tune of about six to one. An attempt to check this against other sections of the country, in a hasty and superficial way, makes me feel that his estimate is conservative, but this question should not be permitted to narrow down to a consideration of only directly competing merchandise.

In some of the larger cities there will be found an average of one retail outlet for every ten to fifteen families—in other words, a retail store of one sort or another for approximately every 50 to 75 of the population. Of course, this represents a countless variety of commodities, running the whole range from the simple necessities of life to those which could not, by any stretch of the imagination, be classified as other than luxuries. But in the present era of salesmanship they are all participants in the contest for the dollar, and in that sense are opponents.

Casually glancing through the merchandising statistics for a city of nearly one million population we find an interesting example. In one group of establishments selling articles that can only be



Plumbing shops in St. Louis are sales outlets for gas

defined as luxuries of relatively high price, there is a retail outlet for every 14,000 of population. This is merely one line of so-called luxury goods.

Now, if we take the country generally, I doubt if, outside of our own organizations, we will find one really active and desirable gas appliance outlet for each 100,000 of population. That, however, is pure speculation, and it is indulged in with no idea that it will carry conviction, but rather to indicate that it is high time we took this subject out of the realm of speculation and reduced it to fact.

So far as my knowledge extends, there is no way to arrive at these facts except through the medium of competently conducted market analysis. It need not be pointed out that such a survey is necessary to the intelligent promotion of our business, and in addition to providing the information essential to an efficiently directed sales effort, it will shed a clearer light on the diversified conditions that are influencing the trend of our domestic market.

It has been said many times that the fundamental purpose of our merchandising activity is to insure the steady growth and development of our utility service. We expect our sales efforts to produce uninterrupted revenue from the continued use of gas service year after year; thus while we have a great deal more at stake than merchandising profits, our objective can only be reached through merchandising, as we or others conduct it.

The sale of all merchandise, luxuries as well as necessities, is stimulated and developed not only by advertising, but by multiplicity of sales outlets. Drugs for the drug store, groceries for the grocery store and hardware for the hardware store, mean nothing in this new competitive age. Our large department stores and the great chain systems are daily reminders that scientific management is present in the field of retail merchandising. Ask the average resident of a city where you can find a drug store or a hardware store and he will give you a

specific answer. Why? Because he is directing you merely to a sign over the door. Ask the same individual where you can get a particular item of merchandise and you may be directed to one of a dozen stores, each bearing a sign of a different trade over its door.

Suppose we were to agree that our business is badly in need of more sales outlets in the domestic market. What is there to be done? There are some who feel that we should no longer delay in developing a sound national policy of enlarged retail sales by utilizing the facilities of existing merchandising establishments. We've made splendid progress already in enlisting the interest, and developing the promotive force of the heating and allied trades. Some companies have established most satisfactory relations with the plumbing fraternity, and joint activities are being worked out in other trade groups.

DISCUSSION IS NOT ACTION

But at the moment this sales cooperation seems to be most needed and least developed in our domestic field. While there is still lacking any general agreement upon policy, let me say that it is not due to lack of discussion. It has been debated overmuch.

Over the signature of "O. U. Sellers," a letter appears in *Gas-Age Record* of January 14, 1928, in which some pointed things are said about gas company merchandising. This writer alleges that the gas industry does not know how to sell, that it is hide-bound by tradition and choked with inertia. He continues that it is unfortunate for the gas business that it is not in a position where it has to sell appliances in order to exist.

Let us for the moment consider that last sentence. Many of us are convinced that we do have to sell appliances in order to exist, and that in addition, we will have to go further than selling them ourselves, and develop many more merchandising outlets than our own sales organizations now provide.

But this gentleman goes on to say that if some big gas company offered him a position as a sales manager, he would go out and get back some of the appliance sales that are going to plumbers, hardware dealers, and department stores. In short, he would proceed to "dam up" the tributary channels of distribution and co-operative sales, and compel the stream of new business to trickle through his own shallow ditch.

ENLIGHTENMENT IS NEEDED

But hear the other side. One who has done much to develop progressive sales policies in our business, says bluntly, in a recent letter, that "the gas industry has 'hogged' the appliance business to its own detriment—to the detriment of the appliance manufacturers, and to the detriment of sales per meter." It has been this very tendency to monopolize appliance sales that has reacted so harmfully upon our domestic market. The small voice of Mr. So-called Sellers calls to us to go back, to narrow down and restrict our new business effort to our own sales organization, while telling us in the same breath that "we don't know how to sell."

These remarks are cited, not so much to present a view from which I sharply dissent as to illustrate concretely the need for broad and enlightened sales policies in our business, and agreement upon the principles upon which such policies must be built.

Our domestic consumption per meter, long the standby of our business, shows the least advance of any general class of gas consumption. I say domestic, meaning the ordinary household uses of gas, excluding house heating. Additional sales per customer is an outstanding need of our domestic situation—a greater use of present investment, and the conversion into profitable customers of those now served at a loss.

While revision of the rate schedule may seem to be a logical corrective for this condition, my personal opinion is that in

many cases an equally logical solution would be to make these domestic customers profitable, and at the same time promote the healthy growth of domestic gas service, by the steady introduction of up-to-date cooking equipment to replace that of less modern design, as well as by the systematic addition of other load building appliances, of which we now have a more complete and satisfactory line for general household use than we have ever had before.

With all due regard to the progress that our own sales organizations are making along these lines, it seems rather noteworthy that, with a few outstanding exceptions, little is being done to utilize the potential sales outlets, and the experience and prestige of the many existing merchandising establishments that could be made of such substantial value in our effort to develop the domestic load profitably.

In some directions, it will be asserted that we have been forced to dominate the appliance market in order to protect our customers' interests. That is only half true. If other agencies are selling inferior or unfit appliances, as we know some of them do, it would be far more constructive procedure to develop a basis of practical alliance that would result in their selling good merchandise.

THE LABORATORY WILL OCCUPY AN IMPORTANT PLACE IN THE MOVEMENT

The Laboratory Seal of Approval will go far to simplify the problem of the irresponsible dealer, the opportunist manufacturer, and the unfit gas appliance. I am told that there are some who feel that the "Blue Star Plan" has not been fully worked out. It may be true that it is not without disadvantages from the point of view of some of our manufacturers, but unless I am altogether wrong, such warranted objections as may now exist must inevitably yield to full understanding, and the constructive approach of the

(Continued on page 249)



© Spence Airplane Photo

Photo taken day of disaster from plane chartered by Southern California Gas Co.

Renewing Gas Service After the Break of the St. Francis Dam

By ROY M. BAUER

Southern California Gas Co., Los Angeles, Calif.

AT twelve-fifty on the morning of March 13, with a dull roar, twelve billion gallons of water came rushing down San Francisquito Canyon on a destructive rampage through the Santa Clara River Valley to the ocean. This major catastrophe occurred after the breaking of the St. Francis Dam.

Gas, electric, water, telephone, telegraph, railroad, and highway facilities were swept away by the tremendous force of onrushing waters.

Southern California Gas Company suffered the loss of two twelve and three-quarters-inch transmission lines from Taft (just north of Castaic Junction), and one twelve and three-fourths-inch transmission line from Ventura (the latter was washed out in five or six places between Piru and Castaic Junction), and the Southern Counties Gas Company one

twelve and three-fourths-inch transmission line from Ventura along the Santa Clara River east of Piru.

Luckily the fifteen-inch Ventura Fuel Company's line, which crosses Santa Clara River at Saticoy, was not damaged and continued to deliver its fifty-four million cu.ft. a day to Los Angeles.

At one-fifteen, the Castaic Junction meters (near Saugus) showed a marked drop in pressure in the main lines, and at one-twenty Glendale Terminal meters showed a marked drop in pressure in the main lines. Immediately, the Glendale Terminal operator announced that a serious accident had occurred. Our main gas works increased pressures on the Glendale-Los Angeles line, and at two-thirty gas was feeding into Glendale and Burbank. By four-thirty the valves on the main lines at Newhall and Castaic Junction



tion and the main line meter stations in the Valley had been shut off. Gas was then started back to San Fernando. Thus, Glendale, Burbank, and San Fernando had a supply of gas at all times, although the pressure was low in some places for a short time after the break.

At daybreak a force of seventy-three men were making a house-to-house canvass in five towns in the western portion



Top: Airplane view taken about three miles east of Piru. Highway and two pipelines from Ventura washed out. Bottom: Repairing break on Ventura line

© Warren's Airplane Photo of San Fernando Valley, which were out of gas. A connection was made to the Ventura Fuel Company gas supply and, with the pressure available from the main gas works, service was resumed about five-thirty in the evening.

The lines washed out were delivering sixty million cu.ft. a day to the Los Angeles metropolitan area. To meet this

(Continued on page 253)



Left: Welded line torn by flood. Twelve-inch steel line torn beside weld, and weld uninjured.



Right: Steel welded line bent by flood



President Fogg lays the cornerstone of the new Laboratory

Cornerstone of New Laboratory is Laid

Fitting Exercises Held at Cleveland on March 15
With President Fogg Officiating

THE cornerstone of the new Testing Laboratory of the American Gas Association at Cleveland, Ohio, was laid with fitting ceremony on March 15. The event was witnessed by representatives of a number of gas appliance manufacturing companies in Cleveland, the Laboratory testing and office staffs, officials of the American Gas Association, and others.

R. W. Gallagher, chairman of the Managing Committee of the Laboratory, opened the ceremony with a brief talk outlining the steps previously taken to bring the Laboratory to Cleveland and make it a permanent institution. He paid tribute to the manufacturer company members of the Association who have been loyal supporters of the Laboratory movement and have helped immeasurably to make it a success. The temporary quarters of the Laboratory at plant No. 2 of The East Ohio Gas Company were established in May, 1925, Mr. Gallagher said, and since that time a total of more than 7300 appliances have been tested and approved for public use. The new building will make available about 30,000

sq.ft. of space as against the 12,000 sq.ft. of space now available in the temporary quarters.

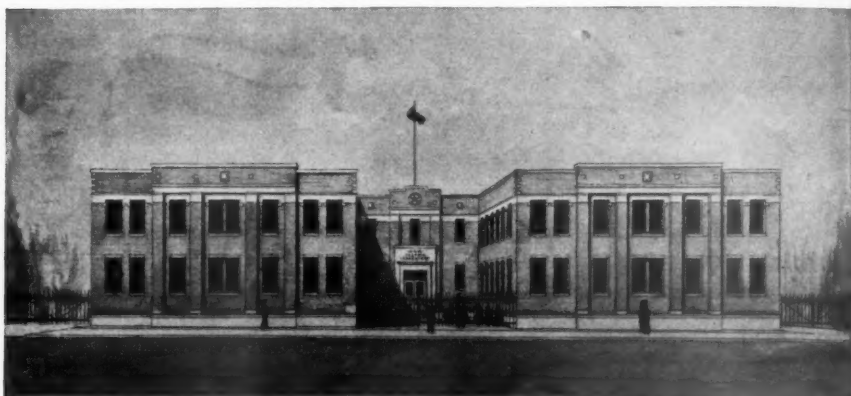
Mr. Gallagher then called upon Oscar H. Fogg, president of the American Gas Association. Colonel Fogg responded as follows:

Less than three years ago the American Gas Association selected the City of Cleveland as the location for its laboratory for the testing and certification of gas-using appliances.

Several factors contributed to the choice, but none more decisively than the keen interest and helpful attitude of the late Martin B. Daly and his associate and friend, Ralph W. Gallagher. Through their generous cooperation a small beginning was made in the plant of The East Ohio Gas Company and from this has been evolved an institution now recognized throughout the land for its efficiency, combined with fairness and integrity.

It has been a constructive force in elevating the standards of quality and safety of the gas appliances used in the homes of America.

This has been made possible by the hearty cooperation of all forces within the industry, the manufacturers as well as the gas companies, the invaluable help of agencies of the Federal government, the wise counsel and direction of Chairman Gallagher and his associates of the Laboratory Managing Committee, and the de-



Architect's drawing of the new A. G. A. Testing Laboratory at Cleveland, Ohio

voted service of Mr. Conner, the director, and his efficient, loyal and experienced staff.

The time has come for a permanent establishment, with a still greater field of usefulness and we lay this cornerstone in the foundation of an institution dedicated to the service of the American people.

With trowel in hand Colonel Fogg then spread the mortar under the cornerstone, and the stone was lowered into position. A copper box enclosed in the stone contained, among other things, a copy of the 1924 report of the special committee, headed by Harry C. Abell, to investigate the feasibility of establishing a laboratory. Also enclosed was a list of officers of the Association for the 1924-25 term when the Laboratory was established, and a list containing the personnel of the Laboratory Managing Committee, general requirements committees, and the Laboratory staff.

At the conclusion of the ceremony, a luncheon was tendered at the historic Union Club by Mr. Gallagher. Brief addresses were made at the completion of the luncheon by Mr. Gallagher, Colonel Fogg, E. P. Bailey, Jr., R. B. Harper, and W. R. Hopkins, city manager of Cleveland.

Responding in behalf of the American Gas Association, Colonel Fogg said:

At the brief ceremony this morning, I en-

deavored to make it apparent that in the erection of the new laboratory go the hopes and aspirations of a united gas industry for an institution of enduring character that will elevate the standards of public service and at the same time contribute generously to the advancement of engineering and scientific research.

It may not be known to many of our guests that the gas industry of America now has on its service mains more than 70,000,000 persons. The national organization of this industry on the North American Continent is the American Gas Association, and its chief object is to promote and develop the gas industry and to coordinate its activities to the end that it may serve to the fullest possible extent the best interests of the public.

The erection of our new testing laboratory is one answer to the millions of our customers that we are endeavoring to fulfill our obligation to them for the safe and efficient utilization of a product that is a vital necessity to their welfare. The fact that we have taken this step voluntarily and have, in the words of a competent authority, "regulated ourselves in the



Prominent officials at ceremony

public interest," is a source of gratification to all who have the best interests of the industry at heart.

The American Gas Association Testing Laboratory, in the final analysis, is dedicated to the users of our service. It is not sufficient that we should distribute a product that measures up to the highest standards. In obedience to the best traditions of the public service it is necessary that the appliances for the utilization of our product be made safe and efficient, and the entire chain of our service, in all of its departments, be linked together according to standards. Hence, the Cleveland laboratory and its comprehensive program.

No reference to the laboratory and its objectives would be complete without paying tribute to those who have been staunch supporters of the movement from the beginning. I refer to the late Martin B. Daly and many of my friends who are in this audience—representatives of some of our largest manufacturers of appliances, members of our Executive Board and the Laboratory Managing Committee, and Mr. Conner, Director of the Laboratory, and members of his Staff.

In addition to all these, however, there is one loyal member of this industry whose contribution to the progress of the Laboratory merits special recognition. He has given liberally of his time and talents to the administration of its executive affairs. He has been of invaluable assistance in the formulation of its policies and in various other ways he has proved himself to be one of the best friends the Laboratory ever had. I refer to the chairman of the Laboratory Managing Committee, my good friend, R. W. Gallagher.

In closing, let me express a word of appreciation in behalf of the American Gas Association to all who have helped to make possible the erection of our new Laboratory and the planning and execution of its ambitious program. We are writing a new chapter in the history of the gas industry and we may be sure that if it reflects something of the idealistic nature of man, we are writing not for today but for posterity.



Dinner at the Union Club



The cornerstone of the Laboratory

Mr. Bailey declared that the Laboratory had already successfully demonstrated its ability to raise the standards of performance and he believed that the entire industry would be increasingly proud of the Laboratory's accomplishments as time goes on. Mr. Harper said that the members of the general requirements committees were anxious to meet the desires of everyone concerned and while it was difficult to do this he believed that in behalf of the best wishes of the laboratory there would be a continued unanimity of purpose.

City Manager Hopkins congratulated the Association on its choice of Cleveland as the site for the Laboratory and promised the support of his administration for its continued success.

Ohio Pays Attention to Subject of Homemaking

THE Ohio Federation of Women's Clubs, closing a year made notable by its preeminently successful campaign for adequately equipped homes, will give the homemaking topic a keynote position at its annual convention scheduled for April 16 to 19 at Lima.

A number of speakers of national and international prominence will address the gathering.

Federation leaders will outline the adequately equipped homes campaign from start to finish. A major feature of this campaign has been a state-wide school essay contest. The purpose of the campaign has been to lighten woman's work through installation of labor, time and health-saving devices afforded by gas, electricity and water.

Educational Work Progresses Rapidly

A. G. A. Committee Reports Much Activity and Long List of Gas Speeches Given Before College Men

THE splendid results being secured as a result of the activity of the Committee on Cooperation with Educational Institutions, W. Griffin Gribbel, chairman, is shown in the following tabulation. Given below are the dates

and subjects of addresses presented or to be presented before various colleges, together with the names of the men making the addresses and those who established the necessary contacts.

College	Date	Speaker	Subject	Arranged By
Mass. Inst. of Technology	Apr.	A. W. Grant, Jr., The Koppers Co.	High Pressure Distribution	Prof. J. T. Ward, Mass. Inst. of Technology
	Apr.	R. S. Carter, Supt., Malden & Melrose Gas Light Co.	Low Pressure Distribution	
	Apr.	F. W. Sperr, Jr., Director of Research, The Koppers Co.	Gas Purification	
	Apr.	A. M. Beebee, Supt. Gas Dept., Rochester Gas & Electric Corp.	Coke & By-Products	
	Apr.	D. W. Wilson, Wilputte Coke Oven Corp.	Coke Ovens	
Brooklyn Polytechnic Inst.	Nov. 4	E. C. Uhlig, Chief Chemist, The Brooklyn Union Gas Co.	Carburetted Water Gas	E. C. Uhlig
Brown University	Nov. 18	L. E. Knowlton, Providence Gas Co.	The Gas Utility	F. C. Freeman, V. P., Providence Gas Co.
Providence College	Dec. 14	L. E. Knowlton, Providence Gas Co.	The Gas Utility	F. C. Freeman, V. P., Providence Gas Co.
College of the City of New York	Mar. 1	C. A. Lunn, Chief Chemist, Consolidated Gas Co. of N. Y.	Municipal Gas	C. A. Lunn
New York University	Feb. 24	C. A. Lunn	The Gas Industry	C. A. Lunn
Colorado School of Mines	Apr.	Mr. Kerr, Public Service Co. of Colo.	Fuels Used in Power Plant Operation (3 lectures)	Geo. Wehrle, Supt. Gas Dept., Public Service Co. of Colo.
Johns Hopkins University	Apr.	W. C. Beckjord, V. P., American Light & Traction Co.	The Present Status of the Gas Industry	Prof. W. J. Huff, Johns Hopkins Univ.
Syracuse University	Feb. 14	G. I. Vincent, V. P., The Syracuse Lighting Co.	Public Utilities and Their Rates	G. I. Vincent
	Feb. 21		The Human Side of the Public Utility	
State University of Iowa	Feb. 15	Prof. S. W. Parr, Univ. of Illinois	The Use of Low Grade Coal for Gas Production	Dean C. C. Williams, State Univ. of Iowa
University of Wisconsin	Feb. 24	A. G. King, Service Engr., A. G. A.	The Gas Industry	J. N. Cadby, Executive Secretary, Wisconsin Utilities Assn.
University of Pennsylvania	Feb. 10	Paul Ryan, Statistician, A. G. A.	Depreciation	Dr. Theo. J. Grayson, Univ. of Penn.
	Mar. 9	C. R. Stull, The United Gas Improvement Co.	Customer Ownership	L. L. Moore, Sales Engr., The U. G. I. Contracting Co.
	Apr. 20	J. A. Perry, The United Gas Improvement Co.	Maintenance	L. L. Moore
Rose Polytechnic Institute	Nov. 17	H. M. Henry, V. P., Gas Utilities Inc.	Opportunities in the Gas Industry	V. W. Kennedy, Indiana Gas Utilities Co., Terre Haute, Ind.
Case School of Applied Science	Feb. 29	J. F. Byrne, The Koppers Co.	By-Product Recovery	W. G. Hogan, The East Ohio Gas Co.
	Mar. 14	Dr. A. R. Powell	Gas Purification	

All dates are 1928, except those in November and December which are 1927.

TIDE OF MEN AND AFFAIRS

George McQuaid Dies



Geo. McQuaid

holding all positions from reporter to managing editor. He was at various times managing editor of the *Dallas News*, the *San Antonio Express*, the *Galveston News*, and the *Guthrie* (Okla.) *Capital*.

In public utility circles he had gained a wide acquaintance through his work with the Texas information bureau, which he organized, and later as public information director of the Central and South West Utilities Company, which is the Insull holding company in the Southwest.

He was well known to the officers and publicity directors of the various national utility associations.

Mr. McQuaid was instrumental, by virtue of his five years of hard work with the Texas committee, in bringing about the friendly understanding which exists between the public and their utility services in Texas.

Mr. McQuaid was a native of Virginia, having been born at Alexandria. He attended Georgetown University at Washington, from which he was graduated with the degree of Bachelor of Arts and Bachelor of Law. Mr. McQuaid went to Texas soon after finishing school and began practicing law at San Antonio.

At the time of his death he was secretary of the Southwest Division of the Natural Gas Department.

LAZARD KAHN, 77, president of the Estate Stove Works, Hamilton, Ohio, and Chevalier of the Legion of Honor, died at his home at Cincinnati, March 8. He was decorated by the French Government in 1900 for his activities in behalf of the Paris International Exposition.

Mr. Kahn founded the stove works with his brother, Felix Kahn, who died in 1924. At first the plant was located at Hanging Rock, Ohio, with general offices at Cincinnati. In 1883 both offices and plant were moved to Hamilton.

GEORGE MCQUAID of Dallas, former director of the Texas Public Service Information Bureau, died at Dallas on March 5. Mr. McQuaid was widely known throughout the entire utility industry. He spent many years on various newspapers,

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S. T. Bodine

"Samuel Taylor Bodine: Son of this University, from which you received the degree of Bachelor of Arts in 1873 and Master of Arts in 1876. Throughout your long career in the world of business you have exemplified those qualities which fit men for constantly increasing responsibilities. With no thought of yourself, but solely with the desire to serve, you have accepted and hold positions of trust, numerous and important, which indicate, better than any words of mine, the confidence in you of other men. Banks, savings funds, railroads, and great commercial enterprises have called you into service, and you have always justified by performance the wisdom of

SAMUEL T. BODINE, chairman of the Board of The United Gas Improvement Co., Philadelphia, Pa., was given the degree of Doctor of Laws by the University of Pennsylvania on February 22. Mr. Bodine is a graduate of the University, class of '73.

Dr. Penniman, Provost of the University, conferred the degree. He spoke as follows:



Standing (left to right), S. T. Bodine, E. B. Morris, Frank Brett Noyes, Dr. R. Tait McKenzie; seated, Gov. John S. Fisher; Dr. J. H. Penniman, Provost of Univ.; Hon. Andrew W. Mellon

your selection. During the World War you were a member of the Board of Appeal of the Eastern District of Pennsylvania and in many positions responded to the call of your country. You are now chairman of the Board of The United Gas Improvement Company. The blood of patriots flows in your veins and you have been faithful to the great principles for which the War of the Revolution was fought. Your University, cherishing mother that she is, has not been unmindful of your life, and now welcomes you as one upon whom she desires to bestow in public ceremonial her proud approval."



W. H. Taylor

WILLIAM H. TAYLOR, vice-president in charge of operations and maintenance of The United Gas Improvement Company, has been elected president of The Philadelphia Electric Company. He succeeds Walter H. Johnson, resigned. In presenting his resignation to the Board of Directors, Mr. Johnson said it was his desire to be relieved

from active participation.

Arthur W. Thompson, President of The United Gas Improvement Company, was elected Chairman of the Board. Mr. Johnson was elected Assistant to the Chairman. Samuel T. Bodine, Chairman of the U. G. I. Board, was elected a director.

Immediately after the announcement of his election to the presidency of The Philadelphia Electric Company, Mr. Taylor, who has had twenty-five years experience in the public utility industry, said he had resigned as vice-president of the U. G. I.

Mr. Taylor began his public utility career twenty-five years ago, following his graduation from Stevens Institute of Technology, and a brief connection with the Link-Belt Company as engineering draftsman. Practically his entire business experience has been with U. G. I. interests.

Mr. Taylor started work with the U. G. I. Company as a constructor in May, 1903, and for the next three years was engaged in the building of Lowe carburetted water gas plants throughout the United States. He then was sent to Omaha as assistant superintendent of the Omaha Gas Company. From Omaha he was sent to Johnstown, N. Y., as engineer of the Fulton County Gas & Electric Company and in 1910 he became engineer of the Charleston Consolidated Railway and Lighting Company, Charleston, S. C. The following year he was sent to Ardmore, Pa., as acting superintendent of the Counties Gas & Electric Company. A year later he returned to Omaha as manager of the Omaha Gas Company, of which company he was elected president in 1920.

In 1922, Mr. Taylor became vice-president and general manager of the Georgia Railway and Power Company, now the Georgia Power Company, Atlanta, Ga.

On February 1, 1927, Mr. Taylor was elected a vice-president of The United Gas Improvement Company, in charge of operations and maintenance.

AT a meeting of the Directors of The Bartlett Hayward Company held on February 28th, Howard Bruce resigned as president of the company and was elected chairman of the Board.

Howell Fisher, who has heretofore been first vice-president and general manager, was elected president.

Albert C. Bruce was elected a vice-president.

The other officers of the company were re-elected.

Mr. Bruce has been president of The Bartlett Hayward Company for eighteen years. Mr. Fisher has been vice-president for twelve years.

The change of officers has no significance, but is made to make the official title of officers more nearly fit their activities.



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N. T. Sellman



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A. M. Apmann

NILS T. SELLMAN, formerly utilization engineer of the Consolidated Gas Company of New York, N. Y., is now assistant to vice-president—commercial relations, and assistant secretary in charge of sales and utilization.

A. M. Apmann has been appointed engineer of utilization.

Mr. Sellman graduated from Stevens Institute of Technology in 1913, and became associated with the gas industry as a member of the department of utilization of the Consolidated Gas Co. of N. Y. In 1921 he joined the staff of the American Gas Association as service engineer.

Mr. Sellman was appointed assistant secretary-manager of the A. G. A. in 1923, resigning in 1925 to become engineer of utilization of the Consolidated Gas Company. Mr. Sellman is at present an active member of the A. G. A., being secretary and member of the Laboratory Managing Committee, chairman of the Refrigeration Committee, member of the Industrial Gas Research Committee, Industrial Gas Managing Committee, and others.

Mr. Apmann has been with the Consolidated Gas Company for two years, and was formerly with the Surface Combustion Co.

DR. GEORGE OTIS SMITH, director of the United States Geological Survey, Washington, D. C., and newly-elected president of the A. I. M. E. will deliver the commencement day address at the Colorado School of Mines, on May 18.

GLENN TRUMBULL is now in charge of new business and sales activities for the Columbus, Ohio, group of properties of the Columbia Gas and Electric system. He was formerly with the Union Gas and Electric Co., at Cincinnati.

JAMES W. FURNESS, of Jenkintown, Pa., has been appointed a chief of the Minerals Division of the Bureau of Foreign and Domestic Commerce, succeeding M. W. Tuthill, resigned. Mr. Tuthill has been with the Bureau of Mines for the past five years as a mining engineer.

F. B. FLAHERTY has been elected assistant treasurer of the Columbia Gas and Electric Co. He has been with the company for some time, and has been located at the New York offices.

SERVEL Sales, Inc., announce the appointment of John M. Bickel as manager of advertising and sales promotion. Mr. Bickel was with the Magazine Repeating Razor Co. His experience also includes three years with the H. M. Byllesby Co. in charge of new business for several properties.



W. P. McCoy

W. P. McCOY has been appointed general sales manager of The Cleveland Gas Burner and Appliance Company, Cleveland, Ohio.

Mr. McCoy recently resigned as sales manager of the gas range division of Abendroth Brothers, Port Chester, N. Y., where he was engaged during the past three years.

He comes to his new position well equipped with years of experience in the gas industry and a fine background of unusual success in the gas appliance field.

During his eleven years of service in the sales promotion dept. of the Welsbach Company of Gloucester City, N. J., and his three years with Abendroth Brothers he has visited and promoted the sales of gas appliances in every important city in North America.

He is widely known throughout the gas industry and his many friends join in wishing him continued success in his new enterprise.



E. B. Myers

management's policy to promote employees whose service records entitled them to recognition.

Mr. Myers has been associated with the U. G. I. or its subsidiaries for twenty-four years, starting as a cadet engineer with the City District of the Philadelphia Gas Works in 1904, following his graduation from the Mechanical Engineering Department of the University of Pennsylvania. During five years of service with the Philadelphia Gas Works, Mr. Myers advanced to assistant superintendent of the district, and in 1909 he was appointed assistant superintendent of the Omaha Gas Works, Omaha, Neb.

In 1911 he became associated with the engineering department of the Northern Indiana Gas and Electric Company, South Bend, Ind., and in 1916 he returned to Philadelphia as assistant to J. B. Klump, vice-president, continuing there until 1925 when he became assistant to Mr. Hutchings.

FRANK R. BARNITZ, recently elected president of the Central Union Gas Company and of the Northern Union Gas Company, New York City, was tendered a dinner recently by his former associates of the Consolidated Gas Company of New York and his present associates of the Central and Northern Union gas companies.

Mr. Barnitz was formerly general commercial manager and assistant secretary of the Consolidated Gas Company of New York. He entered the employ of the Consolidated Gas Company more than thirty-five years ago as junior clerk in the old Hester Street District Office.

Edward P. Prezzano, vice-president of the Westchester Lighting Company, formerly Mr. Barnitz's assistant, acted as toast-master and introduced Henry M. Brundage, a vice-president of the Consolidated Gas Company. Mr. Brundage outlined his close association with Mr. Barnitz for more than thirty years.

Colonel Oscar H. Fogg, also a vice-president of the Consolidated Gas Company, presented Mr. Barnitz with a platinum watch. Gilbert

A. Burrows, assistant general commercial manager of the Consolidated Gas Company, presented an engrossed parchment from the General Office and District Office employees of the Consolidated Gas Company of New York.



C. E. Paige

CLIFFORDE. PAIGE, vice-president of The Brooklyn Union Gas Co., Brooklyn, N. Y., and treasurer of the American Gas Association, spoke over radio station WLTH, in Brooklyn, on February 27. His topic was "Gas as a Factor in Industry."

Mr. Paige pointed out the many advantages of gas fuel, and also described the growth of

the Brooklyn company.

He also spoke over WABC on the gas industry on Mar. 20.

NICHOLAS F. BRADY has been elected a director of the Chrysler Corporation to succeed his brother, the late James Cox Brady.

CHARLES BURCHARD, of the Audubon Avenue office, Consolidated Gas Co. of N. Y., was guest of honor at a meeting of the Commercial Society, in celebration of his completion of 50 years' employment with the company. Mr. Burchard was a member of the first quartet in the gas industry, the other members being the late Robert A. Carter and Frederick R. De Voe, and F. R. Barnitz, when the four were fellow employees in the Hester Street office more than 35 years ago.

Mr. Burchard was employed as bookkeeper by the New York Gas Light Company on January 14, 1878. He later held the positions of collector, assistant cashier, and cashier in the same office, and was transferred on April 1, 1910, to the Audubon Avenue office, where he is still employed.

R. B. RICHARDSON, who has been manager of the Peoples Gas Co., Glassboro, N. J. is now manager of the Wilmington Gas Co., Wilmington, Del. Both properties are controlled by C. H. Geist Co.

STONE & WEBSTER have announced formation of the Massachusetts association to be known as the Eastern Utilities Associates, into which will be merged the Blackstone Valley Gas & Electric Company, the Edison Illuminating Company of Brockton and the Electric Light & Power Company of Abington and Rockland.



J. L. Burns

JOHN L. BURNS, formerly assistant to president of The United Gas Improvement Company, has been promoted to manager of the Insurance and Personnel Department of the company. James B. Douglas was appointed assistant manager.

This department has jurisdiction over insurance, personnel, safety, welfare and claims.

Mr. Burns came to Philadelphia on September 1, 1926, when Arthur W. Thompson became president of the U. G. I. Previously he had been associated with Mr. Thompson for twenty years in public utility work.

The new department head of the U. G. I. was born May 24, 1880, in Midland, Md. After obtaining a grammar school education, he went to work in a bituminous coal mine at the age of 13 years. He followed the occupation of a mine boy and a miner in the Maryland and Pennsylvania fields for ten years, during which time he took up the study of stenography and bookkeeping. Upon completing those courses, he obtained employment in 1904 with the Baltimore and Ohio Railroad and thereafter successively held important positions with that railroad and in the public utility field.

Mr. Douglas, the assistant manager of the Insurance and Personnel Department, entered the employ of the U. G. I. in the Claims Division February 16, 1901. He is a pioneer in the industrial safety movement and in employee welfare work.

Manufacturer Member Is Champion In Athletics

JOSEPH F. DUNN, president of the Dun-Rite Clock Device Company, has started training to condition himself as a participant in the coming tryouts to represent the United States at the Olympic Games which will be held at Amsterdam, Holland, this year.

While at Yale Mr. Dunn was a member of the swimming and gymnastics teams, and for the past fifteen years has represented the New York Athletic Club in fancy diving and gymnastics. In previous years he has won the American Amateur Championships for fancy diving and for the past fifteen years has won either first or second place in all Metropolitan and National Gymnastic Championships and previously was selected to represent the United States on two Olympic teams.

His company is an A. G. A. member and has exhibited its products at three annual Convention-Expositions.

Affiliated Association Activities

Southwestern Public Service Association

THE annual convention of this association will be held at Dallas, Texas, May 2, 3, 4, and 5. The meeting will be arranged to supplement the annual convention of the Natural Gas Department of the A. G. A., which will be at Dallas from May 7 to 10.

An interesting program is being arranged. At the Gas Section there will be informal round table discussions of problems of this fast growing territory, and addresses by Alexander Forward, managing director, A. G. A., J. F. Owens, vice-president and general manager, Oklahoma Gas and Electric Co., and others.

The program also includes section meetings for the electric light and power, and the urban and interurban railway divisions, and general sessions, with addresses by R. P. Stevens, president, and J. W. Welsh, secretary, American Electric Railway Ass'n, Clinton D. Smith, Cleveland Railway Co., Arthur Hardgrave, Kansas City Railway Co., and others.

Interesting entertainment features are also being arranged, according to E. N. Willis, secretary of the Association.

Mid-West Gas Association

THIS Association will hold its 23rd annual convention in Lincoln, Nebraska, April 18, 19 and 20, with headquarters at the Cornhusker Hotel. On Wednesday morning, April 18, there will be a meeting of the council, officers and past presidents and also a meeting of the nominating committee. The opening session of the convention will be held on Wednesday afternoon, April 18, with other sessions on Thursday morning and afternoon, April 19, and Friday morning, April 20.

The Program Committee, of which H. R. Sterrett is chairman, has prepared a program which measures up to the usual high standard set in previous years by this Association. There will be addresses by the mayor of Lincoln; Oscar H. Fogg, president of the American Gas Association; C. A. Nash, president of the Mid-West Gas Association, and C. N. Chubb, president of the Iowa-Nebraska Light & Power Company.

Among the papers to be presented are the following: "Modernizing Home Economics Equipment in Educational Institutions," by A. L. McKinstry; "The Construction and Operation of Boone-Ames Gas Transmission Line," by John M. Drabelle; "Higher Pressures and Their Effect on the Distribution and Utilization of Gas," by E. L. Fischer; "Needed—Better Merchants in the Gas Industry," by E. L. Hinchcliffe; "The Utility's Service and Obligation to Its Public," by Thorn Browne; and

"Training Employees to Properly Represent their Company," by C. C. Hellmers.

The various committees and A. G. A. representatives will submit reports, and there will also be a symposium on "Load Building."

The annual banquet will be held Thursday evening, April 19. Arrangements are being made to include with this event an entertainment program that promises to be one of the features of the convention. The hotel facilities in Lincoln are excellent, and Secretary A. W. Schmidt reports that advance registrations indicate an unusually large attendance.

Southern Gas Association

THE twentieth annual convention of the Association will be held at the Carling Hotel, Jacksonville, Florida, April 17, 18, and 19. There will be general sessions starting at nine o'clock each morning with sectional meetings in the afternoons at two o'clock. The program is a particularly attractive one and should attract a large attendance.

There will be addresses by P. S. Arkwright, President of the Southern Gas Association and Georgia Power Company; Frank H. Owen, Commissioner of Public Utilities; William E. Kay, General Solicitor of Atlantic Coast Line Railroad; H. C. Abell, vice-president of the Electric Bond and Share Company; and B. J. Mullaney, vice-president of the American Gas Association and The Peoples Gas Light and Coke Company. C. S. Reed will address the convention on "Gas Rates."

Professor W. J. Huff will present a report on the Gas Engineering Course at Johns Hopkins University. This course is sponsored by the Southern Gas Association.

The papers to be presented cover practically every phase of the gas business, all being on subjects of the most interest at the present time.

Following are a few of these papers: "Bituminous Coal as Generator Fuel," by George H. Parks; "Mechanical Generators," by C. A. Schlegel; "Tar Emulsion," by E. D. Carswell; "Water Heating," by R. H. Lewis; "Refrigeration," by W. H. Guthrie; "Value of Home Service in Public Relations," by Mrs. Lela D. Tipton; "Space Heating with Gas," by Miss Katherine Ward; "Water Heating with Gas," by Miss Mary Mallard; "The Boss Secretary-Keeper of the Gate," by Miss Alline Bradshaw; "Retort House Practice," by C. F. Carter; "Distribution Problems," by J. O. Boots; "Bread Baking for Large and Small Bakeries and Their Competitive Fuels," by S. L. Drumm, and "House Heating," by H. H. Dugdale.

President Arkwright will preside at the gen-

eral sessions, A. E. Merchant at the technical, Wm. F. Eve, Jr., at the commercial, and Mrs. Beulah Higginbotham at the Women's Public Relations and Home Service Committees.

The entertainment will be held Thursday afternoon and night at Jacksonville Beach, with bathing and beach games during the afternoon, and a regular sea food dinner in the evening followed by a dance at the pavilion with cabaret stunts. There will also be a sight-seeing trip and luncheon party for the ladies.

Wisconsin Utilities Association



I. F. Wortendyke

THE annual meeting of the Gas Section was held at Madison, Wisconsin, February 23rd and 24th under the able direction of Chairman Albert A. Schuetz of Milwaukee.

The greetings of the American Gas Association were conveyed by A. G. King, service engineer, who invited the attention of the members to the

Beal, Addicks, and McCarter Awards. The chairman, in his address, reviewed the present status, future prospects and necessary developments of the industry; he was followed by Professor O. L. Kowalke of the University of Wisconsin. The Professor presented a progress report on original work being carried out under his direction by University students in connection with the aeration of industrial burners. Some of the underlying fundamentals have already been established and the finished work should prove of the greatest value to industrial engineers and designers of equipment.

A progress report on carbonizing with gas was next presented by Professor R. A. Ragatz, also of the University. The action of the constituent gases on steel was determined with particular reference to the effect of variations in gas composition upon the carbonizing power.

Other interesting and valuable contributions dealt with water gas manufacture, and coal, coke developments, safety practice, meter testing, industrial installations and dehydrations; these were presented by E. H. Coffin, Wm. C. Butterworth, H. E. Sweet, N. E. Kemen, G. H. Head, and Louis Stein, respectively.

Thursday afternoon was devoted to an inspection of the Gas Plant of the Madison Gas & Electric Company, followed by a visit to the engineering laboratories of the University. The annual dinner was held in the Crystal Room of the Hotel Loraine. J. P. Pulliam, vice-president and general manager of the Wisconsin Public Service Corporation, presided as toastmaster.

Talented local artists entertained the company after dinner; they were followed by an address on "The Future of the Gas Industry," by A. Gordon King.

Ira F. Wortendyke of the Wisconsin Power & Light Company was elected chairman of the Gas Section for the coming year, and M. H. Montrose of the Wisconsin Valley Electric Company, vice-president.

Indiana Gas Association

THE annual convention of this Association will be held in Indianapolis, Indiana, at the Columbia Club on Thursday, May 24. The program and entertainment is being arranged by a committee consisting of B. H. Gardiner, chairman; V. W. Kennedy, and T. J. Kelly. The Indiana Electric Light Association will hold its convention on May 22, and the Indiana Public Utility Association on May 23 at the same place.

Missouri Association of Public Utilities

THIS association meets at the Missouri Hotel, Jefferson City, Mo., April 26, 27, and 28. President Wm. H. Henby will preside.

Program high spots of interest to the gas man are:

Welcome, by Gov. Sam A. Baker; "Our Public Relations," by Earle W. Hodges, H. L. Doherty & Co.; "The Industrial Development of a Territory by the Utility Working in Conjunction with the Chamber of Commerce," by F. S. Dewey, Kansas City, Mo.; "Present Status of the Natural Gas Industry in the Mid-Continent Field," by Fred Karr, Kansas City, Mo.; "The Use of Gas for Industrial Loads of All Purposes," by W. D. Thompson, St. Louis, Mo.; "What Elements of Cost Should Properly Be Given Consideration in Designing and Developing a Special Rate for House Heating," by R. E. Duffy, Jefferson City, Mo., etc.

As announced by Secretary F. D. Beardslee, the program covers every branch of utility operations. A record attendance is expected.

Rate Reduction is Made

by Phila. Suburban-Counties

REDUCTIONS in rates for gas and electricity, resulting in a saving of \$1,092,246 to customers of the Philadelphia Suburban-Counties Gas and Electric Company, a subsidiary of The United Gas Improvement Company, have been announced.

The company operates in the counties surrounding Philadelphia. Since November, 1925, thirty-six reductions in gas and electric rates have been made by the company, with total approximate savings to consumers of \$1,876,820 annually.

NATURAL GAS DEPARTMENT

N. C. McGOWEN, Chairman

S. W. MEALS, Vice-Chairman

Important Meetings Held at Pittsburgh

On February 27 and 28

IMPORTANT and well-attended natural gas department committee meetings were held in Pittsburgh, Pa., on February 27 and 28.

On the 27th the Managing and Advisory Committees met, with N. C. McGowen, of Shreveport, La., in the chair. At this meeting it was reported that the Houston Gulf Gas Co., Houston, Tex., and the North Penn Gas Co., Port Allegheny, Pa., had taken out membership, and that the following former members of the Natural Gas Supply Men, Inc., had also joined A. G. A. ranks: Fisher Governor Co., Hill-Hubbell & Co., Texo Sales Co., Williamstown Heater Co., Worthington Pump & Machinery Co., and Youngstown Sheet & Tube Co. Sixty-two individual memberships were also reported.

Convention committees reported that considerable progress had been made, and that every indication pointed to a most successful annual convention at Dallas, Texas.

H. J. Hoover reported on *Natural Gas* magazine, and also stated that the proceedings of the 1927 Convention will be available shortly. Copies will be sold for \$2.50.

The membership taken out by the Department in the American Engineering Standards Committee was announced, as is mentioned elsewhere in this issue of the MONTHLY.

Other committees which met at Pittsburgh were the Committee on Papers, L. K. Langdon, chairman; Main Technical and Research Committee, H. C. Cooper, chairman; Gas Measuring Committee, F. M. Towl, chairman; and Com-

mittee on Pipe Line Flow, H. D. Hancock, chairman.

The Pipe Line Committee studied the data which had been obtained in the making of measurements of existing pipe lines in the western and central parts of the United States. Plans were made for further work of this kind and the possibility of making certain laboratory experiments was discussed.

The Gas Measurement Committee discussed and studied the tabulated results of the work which has been done during the past three years concerning the operation of orifice meters in the measurement of natural gas. At this meeting plans were decided upon for the further experiments which will be needed this summer before the completed report of this committee can be made.

The Main Technical Committee of the Natural Gas Department which, under the supervision of the Managing Committee, directs all of the technical and engineering activities of the various committees concerned with natural gas matters, discussed all of these activities and planned further reports and suggestions which they are to make at the May meeting.

At these meetings the convention of the Natural Gas Department to be held at Dallas in May of this year was thoroughly discussed, and it is expected that these various committees can make some very interesting and instructive reports to be presented at that time.

An informal dinner was held the evening of the 28th, and most of those attending the various committee meetings were present.

New Booklet on Gas for Home Owners Being Prepared



Cover page of new booklet

THE Commercial Section will shortly have available an especially attractive booklet designed to be presented to prospective home builders by local gas companies which has been found very effective in promoting the sale of a more complete installation of gas appliances.

Booklets of the same form have been successfully used by the North Shore Gas Company, Chicago, Ill., The Des Moines Gas Company, Des Moines, Ia., The Laclede Gas Light Company, St. Louis, Mo., The Gas and Electric Shop, Louisville, Ky., and others. "Hints for Greater Comfort in Your New Home" is the title and valuable suggestions to the new home builder compose three pages out of the total twenty-four pages. The booklet is a loose leaf publication, with a four color illustration on cover, and is designed to be personally presented to the home builder by a representative of the gas company. Space is provided for the imprinting of the company name on cover and for inserting the home builder's name on the title page. Individual pages are provided for pasting in the manufacturers' mailing piece on the particular appliances recommended for the home in question. There are special pages for the range, water heater, fire-place heater, central house heating, refrigeration, incineration, garage heating, and the domestic laundry appliances.

Leading building authorities estimate that more than 200,000 new single or double family dwellings will be built in this country during 1928.

Building a home is usually the largest investment made by the head of the family and it is well known that the prospective home builder welcomes helpful suggestions and recommendations for appliances to add to the comfort and convenience of his new home. On account of the large number printed the booklets will be available at the low price of \$.20 each, substantially less than the cost would be for any company developing their own literature.

Be sure to write for sample copy.

English Institute of Gas Engineers to Meet in June

THE annual meeting of the Institution of Gas Engineers (British) will be held at Cardiff, the port of South Wales coalfields, from Tuesday, June 12 to the following Friday. H. D. Madden, M. Inst. C. E., engineer and manager of the Cardiff Gas Light and Coke Co. is president.

An interesting program has been announced.

Samuel Francis Moran

SAMUEL FRANCIS MORAN, 54 years old, prominent public utilities lawyer of New York, died recently of chronic intestinal nephritis. Mr. Moran had been ill for more than a year.

Among the companies for which he was attorney are the Brooklyn Edison Company, Inc., Kings County Lighting Company, Cohoes Power and Light Corporation, Citizens Water Supply Company of Newtown, N. Y., and the Cord Meyer Development Company.

A. G. A. Activities

(Continued from page 221)

SINGLE METER DATA REQUESTED

ALL companies who have any data on the master or single meter plan are requested to send a brief summary of their experience to Roy G. Munroe, chairman of the Architects' and Builders' Service Committee of the Commercial Section.

The committee has also decided that the term "single meter" is a more appropriate term to use than "master meter."

LABORATORY GOES ON THE AIR

JOHAN J. BARADA, safety engineer of The Laclede Gas Light Co., St. Louis, Mo., recently gave a radio talk over station KMOX on "The Safe Use of Gas in the Home."

Mr. Barada gave a most careful and comprehensive outline of his subject, and then told briefly what the A. G. A. Testing Laboratory is doing. It is believed that this is the first time the Laboratory approval seal has been broadcast.

ACCOUNTING SECTION**EDWARD PORTER, Chairman****F. H. PATTERSON, Vice-Chairman****H. W. HARTMAN, Secretary**

Improving Relations with the Customers

A. G. A. Committee Offers Help

By H. T. EAST**Assistant to Vice-president, Public Service Co. of Northern Illinois, Chicago, Ill.****H. T. East**

THE gas industry, like other businesses in the public utility group, has for several years recognized the necessity of conducting its affairs in a manner which will gain the good will of the public it serves.

Public relations and customer relations have been outstanding topics at gas conventions and much has been written and said on the subjects. The reputation which the industry in general now holds is proof that the concentrated efforts to improve our standing in the minds of our patrons has produced noticeable results, yet the task is far from completed. There is room for further improvement and efforts must be continued even to hold the position already gained.

In the final analysis the one product of a gas company is service. Every employee contributes in some manner to the service received by the customer and every feature of the business plays a part in developing the customer's attitude toward the industry or in the shaping of public opinion.

Stated in another way: Every little detail of the gas business has possibilities in any program to improve customer relations. The problem is first to determine the matters or conditions in need of attention and second to find the best methods to employ in their correction. The first requirement can only be met by making a careful analysis of company rules, practices, and policies. The second often

requires the assistance of those who have had experience with similar situations.

The Committee on Relations with Customers of the American Gas Association is prepared to furnish member companies with suggestions and information that will aid in solving problems of this nature. This committee is composed of men actively engaged in customer relations work for various companies throughout the country. All have ideas and experience which should prove very useful to those seeking to improve their customer relationship. Companies are invited to make use of the privilege of calling upon this committee for advice or assistance in matters falling within the scope of its functions. This service is free.

The functions of the Committee on Relations with Customers includes such matters as application handling, customer's forms, order routines, complaint handling, meter reading, customer correspondence, organization planning, office layouts, collections, credits, and in fact everything that has to do with the customer in his contacts with the gas utility company.

Every company has situations which need improvement and problems difficult of solution. Whenever cases arise where aid or advice on customer relations matters is needed, it is well to enlist the aid of the Committee.

By aiding in the improvement of the relationship between individual companies and their customers, the committee not only renders a service to the member company and its patrons, but strengthens the position of the industry by promoting better public relations.

Robbins Will Publish New Paper on Dealer Cooperation

COMING at a time when the gas industry is discussing President Oscar H. Fogg's talk before the New England Gas Association, the recent announcement that Robbins Publishing Company, Inc., is to place a new dealer magazine in the field, assumes a wide measure of importance. This new paper, *Gas Appliance Merchandising*, will have three primary objects, the development of good-will between the dealer in gas appliances and the gas company, the education of the dealer to sell a better grade of appliances, and the adoption of more aggressive selling policies and methods on the part of the dealers.

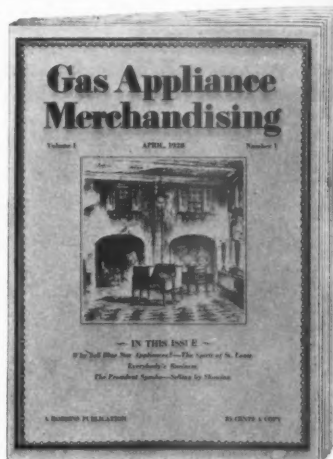
Gas Appliance Merchandising is planned to fit into this situation and become an active agent in the promotion of dealer sales. At the same time it will tell the story of gas and state the position of the gas company in merchandising. Some of the papers that circulate in the dealer fields now carry some material concerning gas, but usually it is derogatory to the gas company and the idea of the public utility engaging in merchandising.

Gas Appliance Merchandising has been organized with M. C. Robbins as publisher, Floyd W. Parsons as editorial director, and J. R. Jennings as editor. Other members of the staff will be chosen for their knowledge of sound merchandising.

Gas Appliance Merchandising will be published along the lines introduced in the publication of *Industrial Gas*. The gas company subscribes to the paper and uses it as part of its own dealer promotion program. It provides the publishers with the lists of dealers to whom the paper is to be sent, and the publisher collects and edits the contents, prints the copies and mails them direct to the dealers. The price is nominal, and far below the cost of men who might be employed by the gas company to accomplish the same results through personal visits to the dealers.

In their announcement the publishers state that *Gas Appliance Merchandising* stands for:

1. A better understanding between dealers in gas appliances and gas companies that both may profit from an increased cooperative effort in the development of both old and new markets for the sale of gas appliances.
2. The sale of only those gas appliances that bear the approval of the A. G. A. Testing Laboratory.
3. The use of better merchandising methods, with more attention paid to well planned sales promotional campaigns; cooperative advertising; attractive store and window displays; and more systematic attention to credits and collections.



4. The sale of not one appliance alone to a home, but that number of appliances that will give all of the services of gas deemed desirable or essential in any given locality.

5. The use of quality pipe and fittings of correct size and type to give adequate service, installed with such care and precision that the customer will experience the maximum of satisfaction.

6. The increased use of gas through a larger volume of appliance sales.

Before announcing their plans generally the publishers sounded out the sentiment of many executives of both large and small gas companies. The response has been enthusiastic, and several large orders have been placed. Nearly all who have discussed the plan have seen *Gas Appliance Merchandising* as a direct tie-up with the Testing Laboratory and the Blue Star plan of cooperative merchandising which is being promoted by the Commercial Section. Many companies who are to use this new publication have no formal program of dealer cooperation, but believe that the circulation of the paper will start the work and fit into any plan that may be developed later. They believe that the proper discussion of some of the questions of commercial policy will do much to clarify the dealer situation as it now exists, and help to make the dealer a booster for gas and gas appliances.

Second Soft Coal Conference

OFFICIAL announcement comes from the Carnegie Institute of Technology in Pittsburgh that a second International Conference on Bituminous Coal will be held there during the week of November 19, 1928.

PUBLICITY AND ADVERTISING SECTION

E. FRANK GARDINER, Chairman

JAMES M. BENNETT, Vice-Chairman

CHARLES W. PERSON, Secretary

Industrial Advertising Program Continues

Advertising Now Appearing in 28 Magazines

STARTING with the March issues of 28 trade and class publications with national circulation, the advertising program of the Industrial Gas Section continues for the coming year. The new program is essentially the same as that of the past year.

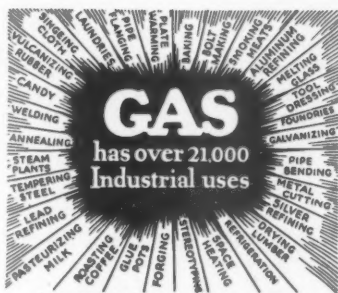
The committee in charge of this advertising has outlined a most comprehensive plan for gas companies to follow. It has proved especially successful, and it is felt that it will be even more productive of results in the future.

Those in charge have planned a program that conforms to effective advertising procedure in every way. The national copy is designed to interest the manufacturer-prospect through his trade papers; a booklet, which will be off the press shortly, is to give him more detail and the newspaper advertisements, prepared from mats of the trade paper copy illustrations, are to show him that his local gas company is able to satisfy his requirements.

The mats of the advertisements are now ready in two sizes, three or five column. Orders for mats should be sent to Association Headquarters.

The list of magazines carrying the advertisements for the coming year is:

Chemical and Metallurgical Engineering, Electrical World, Baker's Weekly, National Provisioner, Journal of the American Ceramic Society, American Machinist, Forging-Stamp-



GAS
has over 21,000
Industrial uses

Industry knows the efficiency of gas — is using it in over 21,000 different ways!

Go to any plant where gas is used and examine the charts of the automatic recording instruments. There you will find the story of gas flexibility — temperatures instantly raised or lowered at the turn of a valve. There you will see how gas fits in — adapts itself

to every heat-treating requirement of the plant it serves.

See this time-saving fuel in use. Note the speed and efficiency of all heat-treating operations. Figure the economies that come with it — and you, too, will turn to gas.

Consult your own gas company for complete data, or write to AMERICAN GAS ASSOCIATION, 412 Lexington Avenue, New York City.

YOU CAN DO IT BETTER WITH GAS

The April advertisement

sands of copies of the booklet, "Gas, the Ideal Factory Fuel," having been distributed. Various local gas companies gave the program splendid support, by running matrices of the national advertisements over the company name in the local newspapers at the time the national magazines were being circulated.

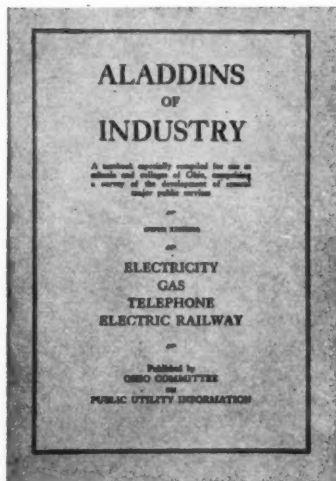
Germany Asks A. G. A. Aid

THE German love of efficiency is responsible for the respect they have for the American kitchen.

A modern American kitchen is a feature of a large exposition which is being held in Berlin for three months, starting April 1.

Ella Briggs, employed by the German government to design the kitchen, recently completed a tour of America during which she called at the American Gas Association to ask assistance in securing a new type gas range for the model kitchen to be shown.

Ohio Committee Succeeds in School Pamphlet Work



A NEW text-book, entitled "Aladdins of Industry," has been compiled by the Ohio Committee on Public Utility Information and has been supplied to meet school needs. Five editions, totaling 192,000 copies, have been used in 1152 high schools and colleges as the basis for organized class-room work, and the time, not far in the past, when the gas industry of Ohio, in common with other phases of the public utility business, was being pretty generally caricatured in the school text-books which purported to give instruction on utility subjects, is past now.

Separate chapters tell of the four major utilities—gas, electric light and power, telephone and electric railway services. The chapters relating to the gas industry tell the history of the business, how gas is obtained, how it is piped to the ultimate consumer, facts about rates, taxes, regulation, and, in a word, something about each phase of the industry.

Before beginning the work, the Ohio Committee surveyed many text-books then in use in the schools. It found that the subject of utilities usually was told in a chapter or less of some civics book and that there were many untruths, half-truths and statements which were inaccurate because they were years behind the times.

Few of the books mentioned the subject of utility regulation. This possibly was because they had not been revised in ten years or more. The subject of regulation, if touched upon at all, was entirely one-sided, stressing the need of

regulation for the public's sake but saying nothing about the equally important function of protecting the utility industry's service to the public and its investors.

After due deliberation it was decided that a new book should be written and that this should tell the truth, the whole truth, and nothing but the truth about utilities as they are today. The Ohio Committee on Public Utility Information undertook this work.

When the first few books came off the press, they were sent, rather diffidently, to school officials. With them went letters telling the school authorities that, if the books met their approval and if they believed their students could use them with profit, the books would be furnished free of charge. The response was almost instantaneous.

School superintendents, principals, and teachers all wrote in to the effect that the booklet filled a long-felt need. Students in English, current topics, science, and social science classes in junior and senior high schools throughout the state today are studying "Aladdins of Industry."

Hundreds of letters have been received by Fred J. Bollmeyer, director of the Ohio Committee, from school authorities commenting upon the booklet.

The booklet takes the four major utilities—electric light and power, gas, telephone, and electric railways—giving their history, telling what they are now doing and what they expect to do. There is no "ballyhoo" in it. The biggest thing about the book perhaps is the fact that its information is up-to-date.

The fact that "Aladdins of Industry" is putting the truth in the hands of the coming generation is assurance enough that it is a well worth while venture.

P. H. GADSDEN TO SPEAK AT ADVERTISING CONVENTION



PHILIP H. GADSDEN, vice-president of The United Gas Improvement Company, Philadelphia, Pa., and chairman of the executive committee of the Joint Committee of National Utility Ass'n's, will address the annual convention of the International Advertising Association at Detroit, Mich., on July 9.

Mr. Gadsden will speak in behalf of the public utility industry, and will represent the Public Utilities Advertising Association on the program.

The convention will last from July 8 to 12.

MANUFACTURERS SECTION

H. LEIGH WHITELAW, Chairman

J. A. FRY, Vice-Chairman

C. W. BERGHORN, Secretary

Flow of Gas Through Orifices*

By C. GEORGE SEGELER

Industrial Engineer, American Gas Association

THE discharge of gas orifices has been repeatedly investigated so that the data here presented can hardly lay claim to originality. However, the three charts have been developed as a more convenient method of finding gas discharge than by recourse to tables to which suitable correction factors for gravity and pressure must be applied.

The formula used as a basis for calculating the orifice discharge is very simply derived from the well-known hydraulic formula which states that the theoretical velocity of water flowing from an orifice is the same as the velocity of a freely falling body after dropping from a height equal to the head of water.

$$V = \sqrt{2gh} \dots\dots\dots \text{Equation 1}$$

V = velocity in feet per second

g = acceleration of gravity = 32.2 feet per second

h = head of water in feet.

For gases this formula is not strictly true because the volume changes as the pressure falls off. The pressure change for

low-pressure gas (up to 10 inches water column) is relatively small and correspondingly the change in specific volume can be disregarded. This subject has been investigated quite thoroughly and reference may be made to the adiabatic formula developed in Bur. of Stds. Sci. Paper 359, "Efflux of Gases through Small Orifices," for an exact treatment. The hydraulic formula yields results slightly low; less than 0.1% at four inches and about 0.4% at eight inches water pressure. Inaccuracies in drilling are far greater so that the subsequent data may be taken as satisfactory for practical purposes.

The hydraulic formula can be adapted for gas work as follows:

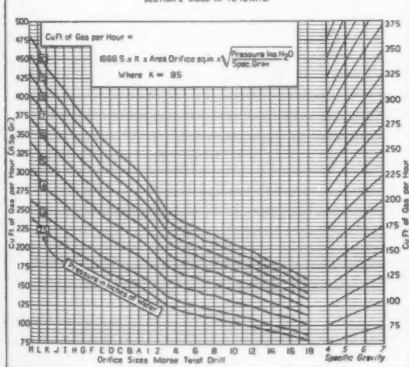
Let h = head of water in feet

H = pressure of gas in inches of water

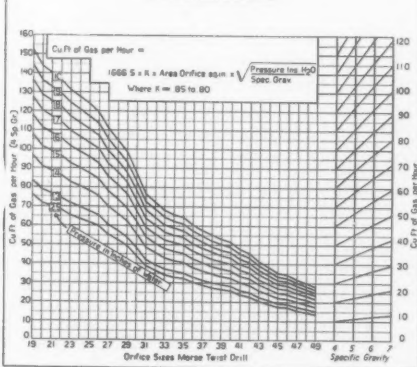
d = specific gravity of gas (air = 1.0)

Each foot of head of water at 60° F would have the same effect as a head of air (at 60° F, 30" Hg wet) 828 ft. high. Allowance has been made here that gas

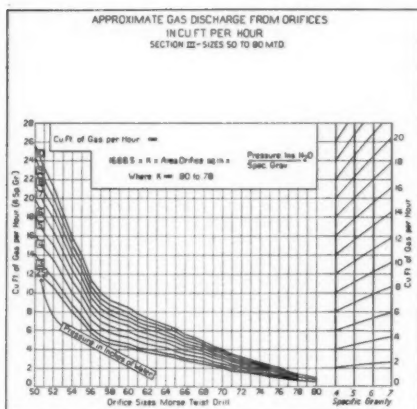
APPROXIMATE GAS DISCHARGE FROM ORIFICES
IN CU. FT. PER HOUR
SECTION I—SIZES 1/16 TO 1/8 IN.



APPROXIMATE GAS DISCHARGE FROM ORIFICES
IN CU. FT. PER HOUR
SECTION II—SIZES 1/8 TO 1/4 IN.



*Based on Bur. of Stds. Tech. Paper 193.



gravities are quoted for dry gases** but that gases are used saturated with water vapor. Bur. of Stds. Tech. Paper 193 uses a figure of 820 for dry air.

Ratio of water density to air density = 62.368 lbs. per cu.ft. \times 13.284 cu.ft. per lb. = 828 water measured at 60° F and air at 60° F, 30" Hg saturated.

Thus

$$h = \frac{H}{12} \times \frac{828}{d} = 69.0 \frac{H}{d} \dots \dots \text{Equation 2}$$

and now substituting in Equation 1

$$\begin{aligned} &= \sqrt{2 g \times 69.0 \frac{H}{d}} \\ &= \sqrt{64.4 \times 69.0 \frac{H}{d}} \\ &= 66.66 \sqrt{\frac{H}{d}} \dots \dots \text{Equation 3} \end{aligned}$$

At this time it is well to consider the effect of the orifice on the velocity of gas discharge. The gas stream as it comes from an orifice has a varying velocity from its outer edge to the center and the stream tends to show a typical contraction a short distance beyond the orifice. By use of the usual channel type orifice (length of channel about 0.1" and angle of approach as small as possible, about 8°) the contraction effect is decreased. The discharge is greater because the average velocity of the gas stream is

**Even when the gravity of a gas is measured using saturated air and gas by the effusion method, the results are dry values.

higher than from a sharp edge orifice, even though the maximum velocity is slightly lower. The channel effect varies with the gas pressure causing a change in the coefficient of discharge and rendering the application of Equation 3 not exactly correct.

For practical purposes Equation 3 holds well enough and the pressure and density corrections are made accordingly. The next step is to develop the discharge equation:

Let A = area of the orifice in sq.in.

K = coefficient of discharge

then

$$\text{cu.ft. of gas per hour} = \frac{A}{144 \text{ sq.in.}} \times K \times V \times 3600 \text{ seconds}$$

Substituting from Equation 3

$$\begin{aligned} \text{cu.ft. of gas per hour} &= \frac{A}{144} \times K \times 3600 \times 66.66 \frac{H}{d} \\ &= 1666.5 A K \frac{H}{d} \dots \dots \text{Equation 4} \end{aligned}$$

All of the data except the values of K are easily obtainable but the coefficient is the uncertain item. The range of values chosen in developing the three charts are based on conditions that would probably be met with in practice. The A. G. A. Laboratory reports values both higher and lower than the ones chosen. The manufacturer can hardly be expected to duplicate in average practice the best that could be done by careful drilling, counter sinking, removal of burrs, etc. Besides, an orifice tends to foul slightly. It is thus felt that the coefficients used are a fair average of what actual operation might reproduce.

METHOD OF USING CHARTS

To find discharge of given orifice:

Select chart carrying orifice size desired and project upward to proper pressure curve. The discharge as read on the left hand scale is in cu.ft. per hour of 0.4 sp. gr. gas. For other gravities project horizontally to the desired gravity line (vertical lines at the right of the charts) and

(Continued on page 250)

INDUSTRIAL GAS SECTION

F. C. MACKEY, Chairman

J. P. LEINROTH, Vice-Chairman

C. W. BERGHORN, Secretary

Industrial Gas Course Will Be Held at M. I. T. from June 18 to 29



J. P. Leinroth

American Gas Association.

The major subject to be taken up at the course this year is "Metallurgy," according to J. P. Leinroth, chairman of the A. G. A. committee on Education of Personnel which has charge of the cooperation with the course.

The work of the course will be carried on under the direction and guidance of members of the M. I. T. faculty, together with well-known men in the gas industry.

"This course is being sponsored not only for New England men but also for men from all parts of the East who desire to take advantage of the instruction and facilities offered to improve their

knowledge of gas applications in industry," says Mr. Leinroth. "The two weeks, intensive training offers a great deal to the men engaged in selling industrial gas, and it is particularly significant that the executives of our leading gas companies are making it a point to have their men attend.

"Due to the cooperation of the A. G. A., it has been definitely established that the course at M. I. T. will treat only with the technical and academic phase of the industrial gas problem. There is a real need for two types of instruction for men engaged on the firing line of selling industrial gas, and the M. I. T. course fills the technical aspect, while the annual course given by the A. G. A. in New York City in the Fall amply covers the sales and economic side of the problem."

Further announcements will be made in the May issue of the MONTHLY.

In Memoriam

G. W. Gatehouse, Brooklyn, N. Y.
Wm. J. Meyers, New York, N. Y.



"Copyrighted, Clifton Church"

Gas Helps Make World's Largest Disc of Glass



Making world's largest glass disk

AFTER a period of over nine months during which the temperature was lowered under absolute control from the casting temperature of 2,400 deg. F. to room temperature, one of the three largest glass castings ever made was uncovered in its annealing mold at the Bureau of Standards. The casting is 70 in. in diameter, 11 in. thick and weighs 3,500 lbs. A gas-fired furnace was used.

It is the largest glass casting ever made in this country and is believed to be the only one of its size without flaw which has ever been produced. The casting is to be used for the concave mirror for the new reflecting telescope of the Perkins Observatory at Ohio Wesleyan University.

One thousand pounds of cullet and 4,600 pounds of sand and chemicals were melted in a single large pot in the gas-fired furnace. The molten glass was stirred by hand for six hours and at the proper time on May 7, 1927, the pot was tapped. The molten glass was flowed into a mold of the required size which was specially designed for this purpose.

The photograph shown was taken while the glass was being stirred.

George K. Burgess, director of the Bureau, writes as follows:

"The furnace in which the glass was melted and stirred was gas-fired and the stirring was accomplished by means of a water-cooled iron pipe which extended into the furnace and to the bottom of the pot. In the photograph you will notice that the water for keeping the stirring rod cold is supplied and carried off by the two pieces of hose which extend from either side of the rod to the temporary floor. It was necessary to do all the stirring by hand instead of by machine on account of the size of the pot used in making the glass because our stirring machine did not have sufficient capacity for stirring such a large amount of glass, which was approximately 4,500 pounds."

U. G. I. Attempts to Help Unemployment Situation

THE necessity of speeding up the 1928 construction program of the various public utility companies in which The United Gas Improvement Company is interested has been urged upon officials of the company by Arthur W. Thompson, president, as a means of affording a measure of relief to the unemployment situation in Philadelphia and vicinity.

The budgets of the companies in which the U. G. I. has an interest provide for the expenditure of approximately \$20,000,000 for construction work of all kinds in the Philadelphia metropolitan area, in Eastern Pennsylvania, in Northern Delaware and in other Eastern States.

In a letter sent to W. W. Bodine, vice-president in charge of finances and chairman of the company's Management Committee, Mr. Thompson calls attention to the discussions of unemployment in this country and urges the Committee to consider what projects covered by the budgets could be started at an early date. The Management Committee is charged with the supervision of all of the construction budgets of the U. G. I. Companies.

The 1928 budgets of two U. G. I. companies follow:

The Philadelphia Suburban-Counties Gas and Electric Company—\$6,309,000 for extensions to its plants, transmission lines and mains in the counties surrounding Philadelphia.

The Philadelphia Gas Works Company—\$2,000,000 for additional plant equipment and extensions of mains.

Did You Get Yours?

THE Classified Directory of Manufacturers of Gas Equipment and Appliances which accompanies this issue of the MONTHLY represents a service of considerable value to our manufacturer members.

The Directory, however, can only be of maximum use if the information carried therein is reliable. Our members are, therefore, urged to furnish headquarters with all information pertinent to and of a nature to be included in this pamphlet.

To derive the full benefit from the Directory our manufacturer members should furnish us with a complete list of their products and trade names of interest to the gas industry.

Error

A SLIP of the typewriter made us say last month that Alfred E. Forstall is connected with the U. G. I., whereas all the gas world knows he is the head of Forstall, Robison and Luqueer, of New York, N. Y.

COMMERCIAL SECTION

J. J. BURNS, Chairman

J. W. WEST, Jr., Secretary

G. M. KARSHNER, Vice-Chairman

Sales Allies—Their Value in the Present Age

(Continued from page 226)

appliance manufacturers, and the gas companies.

Certainly the policy underlying the Laboratory plan is fundamentally sound. It was intended to improve and, indeed, is improving the standards of construction and performance of gas appliances. Furthermore, it was intended to eliminate and is now eliminating from the market appliances that are unsafe or otherwise unfit for the use of our customers, and in so doing it has strengthened the confidence of the buying public in the merits of gas-using equipment. Not the least benefit hoped for was that it would promote cooperation between gas companies and dealers, in merchandising none but approved appliances. I am confident that it will in time accomplish these things, confident because I am convinced of the progressive and constructive spirit of both our manufacturers and our gas company sales executives. So, in spite of any objections that may at the moment be put forth to the effect that the Blue Star Plan is less workable than expected, I believe that it is a pronounced step in the direction of better merchandising, and better gas service, and that it will improve in operation and its soundness be convincingly established.

Sound commercial policies are not of mushroom growth. Efficient marketing methods are not devised overnight, but that they are capable of much more rapid development than has so far taken place seems to be a rather general conviction.

We are prone to discuss and consider—to draw too heavily upon logic to support our ideas—to weigh and balance over long, and thus, while opinion is beginning to crystallize upon the need for a national sales policy, there is yet lack of agreement upon what many have long believed is a very important question—

the extent to which we should endeavor to expand our sales through a broad and practicable policy of dealer representation.

Now, let us frankly face the fact that until we are ready to discard preconceived notions, until we are willing to reconstruct entirely our commercial policies, this project will not get beyond the realm of discussion. So long as there remains any tendency to restrict appliance sales to the limited scope of the gas companies' organization, however efficient, just that long will our domestic business remain in jeopardy.

WORKABLE PLAN POSSIBLE

It is recognized that many differences exist in sales methods and policies employed by utility companies and those whose sole business is merchandising. Many intricate questions of mark-up, margin of profit, salesmen's compensation, connection of equipment and servicing of installations are involved. But if the end to be achieved is regarded as sufficiently worth while, it is reasonably certain that all of these considerations can be merged into a workable plan.

I do not think for a moment that all that our domestic market needs is more sales outlets. But I do think that—among other things—it needs those badly—as it does the stimulating influence of a co-ordinated program of advertising. Clearly the two are closely related.

I am fully aware that this subject has been presented far less completely than its importance deserves. Nothing has been said of the good will value of dealer allies—their own as well as that which they command—nor have I touched upon the growing resentment that is being voiced in some sections of the country against the alleged attempts of the utili-

ties, both gas and electric, to dominate the appliance merchandising field. The purpose of my remarks is to join my voice with those who are asking that we decide, not as individuals, here and there, concerned only with our own situation, but that as an industry we decide whether or not we need these "Sales Allies" in our business. With that question settled, one way or another, we will have at least opened the door leading to a unified national sales policy in the gas industry.

California Makes Progress

(Continued from page 210)

seventy thousand barrels of oil per day were shut in. In the Ventura Avenue field alone natural gas production to the extent of approximately sixty-one million cubic feet per day was curtailed.

The conservation program as finally agreed to was made possible by the constructive work of the Governor's committee and by the cooperation of the larger oil companies and will result in great benefit to the oil industry as a whole, the natural gas companies of Southern California and the public at large.

Flow of Gas Through Orifices

(Continued from page 246)

read the discharge on the right hand scale formed by the diagonal lines.

Example:

Find the discharge of a No. 27 MTD orifice at 6" pressure with a 0.6 sp.gr. gas.

Solution:

On Section 2 project to the line marked 6 along the vertical at 27. From the intersection move horizontally to the 0.6 sp.gr. line. Read 70 cu.ft. per hour on the right hand scale as the discharge.

To find orifice capable of certain discharge:

Select chart carrying desired discharge (the charts overlap somewhat) on the right hand scale. Move along the diagonal line (vertical lines at the right of charts)

is intersected. Then project horizontally lines at the right until the proper gravity to curve of gas pressure and read the nearest Morse Twist Drill size on the horizontal scale at the base of the chart.

Example:

Find the orifice size needed to discharge 60 cu.ft. per hour of a 0.5 sp.gr. gas at 3 inches pressure.

Solution:

Move diagonally down along the 60 cu.ft. line until the 0.5 sp.gr. is intersected. Then project horizontally to the line marked 3 inches pressure and read the nearest MTD size as Number 25.

What the Laboratory Means

(Continued from page 216)

entire problem as it is now outlined will require several years for completion and will cover almost every usual combination of manufactured and natural gas.

While the Laboratory has always given fully as much, if not greater, consideration to the natural gas side of our appliance problems than the manufactured gas side, natural gas men can now, since the amalgamation of the two great associations, take a greater interest in our appliance testing program.

Construction of the new laboratory building is now proceeding rapidly and when completed it will be by far the most adequately equipped laboratory of its kind in the world.

No industry in recent years has ever reached the peak of its possible attainments without diligently following out a systematic program of standardization, research, and scientific control. This is a matter of history. The adoption of our testing program by the gas industry was a definite step in this direction; the results obtained are now reflected in the improvements of our domestic gas appliances and the development of basic knowledge on the subject of mixing gases. Even at this early date, distinct progress in the field of gas utilization is being made.

TECHNICAL SECTION

WALTER C. BECKJORD, Chairman

HARRY E. BATES, Vice-Chairman

H. W. HARTMAN, Secretary

Distribution Conference Program Announced

Record Attendance Expected at Fifth Meeting of
Distribution Engineers at Chicago, April 12-13

ADVANCE indications point to an attendance of more than three hundred at the Fifth Annual Spring Distribution Conference held under the auspices of the Distribution Committee of the American Gas Association at the Hotel Stevens, Chicago, Ill., April 12 and 13.

Invitations are being sent to all manufacturers and natural gas company members of the Association and manufacturer company members interested in distribution problems. The committee in charge has announced a program of real interest and value. M. I. Mix, of The Peoples Gas Light & Coke Company, Chicago, is chairman, and H. W. Hartman, assistant manager of the American Gas Association, is secretary.

A feature of the Conference will be an Open Forum to be held on the afternoon of April 13. This Open Forum has proved to be one of the most valuable parts of the program.

On Saturday morning, April 14, arrangements have been made for an inspection trip to the Gary Plant of the National Tube Company. Through the courtesy of this company, buses will be provided and an opportunity to see just how steel pipe is made offered.

Of special interest to those who plan to attend is the announcement that The Peoples Gas Light & Coke Company will provide entertainment for visiting ladies. On Thursday afternoon, April 12, there



M. I. Mix



H. W. Hartman

will be a demonstration and inspection trip through the Home Service Department of the company. On Friday afternoon, April 13, there will be a luncheon and sightseeing trip of the city.

The program is as follows—

THURSDAY, APRIL 12

Morning—10:15 A.M.

Report of Committee on Pipe Coatings, J. K. Crowell, Westchester Lighting Company, Mt. Vernon, N. Y.

Report of Committee on Pipe Joints, O. S. Hagerman, American Light and Traction Co., New York, N. Y.

Joint Practice as Applied to Long Distance High Pressure Transmission Lines, E. V. Kesinger, The Empire Companies, Bartlesville, Okla.

Life of Pipe, R. G. Griswold, H. L. Doherty & Co., New York, N. Y.

Afternoon—2:00 P.M.

Report of Committee on Meters, G. A. Lane, The Peoples Gas Light and Coke Co., Chicago, Ill.

Advantages of the Meter Bar, E. S. Umstead, Providence Gas Co., Providence, R. I.

Report of Committee on Cast Iron Pipe Standards, Walton Forstall, The United Gas Improvement Co., Philadelphia, Pa.

Report of Committee on Pipe Materials, V. C. Hoddick, Rochester Gas & Electric Corp., Rochester, N. Y.

FRIDAY, APRIL 13

Morning—10:00 A.M.

Report of Committee on High Pressure Transmission of Gas, F. A. Lydecker, Public Service Electric & Gas Co., Newark, N. J.

Automatic Pressure Boosters for District

Regulators and Pressure Regulation for High Pressure Holders, E. H. Enander, Public Service Co. of Northern Ill., Chicago, Ill.

Report of Committee on Distribution Portable Equipment, J. H. Braine, The Brooklyn Union Gas Company, Brooklyn, N. Y.

Afternoon—2:00 P.M.

OPEN FORUM—It is planned to devote the entire afternoon to discussion of distribution problems which attending members desire to bring up. No papers or summaries have been prepared for this session and all delegates are urged to bring up at this time any of their problems or the solution of them not covered in other portions of the program.

SATURDAY, APRIL 14

Arrangements have been made for an inspection trip to the Gary Plant of the National Tube Company on Saturday morning. Through the courtesy of this company, buses will be provided for the convenience of the members and it is requested that all delegates indicate at the Registration Bureau whether or not they intend to take advantage of this opportunity.

Those who are planning to attend the Conference are urged to make their reservations with the Hotel Stevens.

Production Conference to Be at Rochester



© Blank & Stoller
H. H. Himsworth

THE second annual Production Conference of the Carbonization, Chemical, and Water Gas Committees will be held at Rochester, N. Y., at the Hotel Seneca, on May 22, 23, and 24. It is fitting that Rochester be the meeting place, as it offers a number of interesting features, such as coke dry quenching plant, a crude light oil Silica-Gel motor fuel

plant, the only direct producer gas cooler that also saturates the air blast, a battery of sixty Becker ovens especially equipped to prevent smoke nuisance, a condensing and scrubbing plant so designed as to eliminate tar extractors or Cottrell precipitators and at the same time produce Arcadian Sulphate, a liquid purification plant of the sulphur precipitation type, and, last but not least, a beautiful and up-to-date city with many other things of interest.

H. H. Himsworth, chairman of the Joint Program Committee, states that the committee in charge has developed a program providing material for real and interesting discussion. A preliminary survey indicates that the Conference will be one that no technical man can afford to miss. In order to present properly the subjects they will in many cases be accompanied by prepared discussion which should evoke the desired general discussion. At the Open Forums members will have an opportunity to discuss their problems.

The Program Committee is composed of the following members: H. H. Ferris and F. D. Lohr, representatives of Carbonization Committee; E. J. Murphy and R. E. Kruger, rep-

resentatives of Water Gas Committee, and C. A. Lunn, representative of the Chemical Committee. These are assisted by the main committee chairmen—Carbonization, H. H. Himsworth; Water Gas, W. J. Murdock; Chemical, E. C. Uhlig.

Half day sessions are allotted as follows: Tuesday, May 22, Morning Session—Carbonization; Tuesday, May 22, Afternoon Session—Water Gas; Wednesday, May 23, Morning Session—Chemical; Wednesday, May 23, Afternoon Session—Carbonization; Thursday, May 24, Morning Session—Water Gas; Thursday, May 24, Afternoon Session—Chemical.

The program follows:

May 22, 10 a.m.: Some interesting features of the Koppers vertical installation at Sterling, Ill. Review of carbonizing plant tests. Economics of the ammonia situation.

May 22, 2 p.m.: Symposium on use of bituminous coal as generator fuel for production of water gas and blue gas. Report—results of checkerbrick tests. Automatic clinkering and charging machines. Measurement of gas in large volumes.

May 23, 10 a.m.: Recording control apparatus; discussion. Experience in application of Pacific Coast method of oil efficiency. Control of water content of coal tar. Naphthalene scrubbing. Recent developments in liquid purification and sulphur utilization.

May 23, 2 p.m.: Symposium on coke. Progress report—Mixed gas research. Open Forum.

May 24, 10 a.m.: Treatment of gas plant wastes. Tar separator design. Open Forum.

May 24, 2 p.m.: Strache Kling calorimeter. New developments in methods of determinations of naphthalene. Laboratory evaluation of gas oil. Laboratory technique. Progress reports of subcommittees.

Reviewing Gas Service

(Continued from page 228)

deficiency, the electric steam generating plants at Los Angeles, Seal Beach, and Long Beach were switched to oil fuel at daybreak. Generators at the gas works were heated and runs of oil gas were made in the morning. About twenty-five million cu.ft. a day of industrial business were curtailed before ten-thirty in the morning. Thus, we were able to make up the deficiency and maintain service without the manufacture of any appreciable amount of oil gas. Credit should be given to Southern California Gas Company, Southern Counties Gas Company, Los Angeles Gas and Electric Corporation, and Long Beach Municipal Gas Department for their splendid cooperation in the emergency.

At daybreak all available men and material were rushed to Castaic Junction. The situation was so serious that a small temporary line across the break was decided upon. It was placed in service at three-forty-five the morning of the sixteenth.

The Southern Counties Gas Company likewise rushed men and materials at daybreak to Piru and vicinity and commenced laying one thousand feet of six-inch line for a temporary crossing over the river east of Piru to connect its Newhall-Los Angeles line with the Southern California's Ventura Line, which required replacing of only five hundred feet of line. This combination gave us the first gas at eight-fifteen on the morning of the fifteenth. The Southern Counties had their own line in full service at nine the night of the seventeenth.

The Southern California Ventura line was placed in service again at eleven the night of the eighteenth.

All repairs made were of a temporary nature and were rushed through to insure an adequate natural gas supply.

OUR LIST OF NEW MEMBERS

GAS COMPANY MEMBERS

Houston Gulf Gas Co., Houston, Texas.

MANUFACTURER COMPANY MEMBERS

R. E. Fraser Co., Stockton, Calif.

Kewanee Boiler Corporation, Kewanee, Illinois.

Murphy Sheet Metal Works, San Pedro, Calif.

Ellis Adding Typewriter Co., Newark, N. J.

W. K. M. Co., Inc., Houston, Texas.

Pasadena Gas Appliance Co., Pasadena, Calif.

ACTIVE MEMBERS

Bivens, F. H., So. Counties Gas Co., 810 S. Flower St., Los Angeles, Calif.

Fitkin, Wayne W., Southern Counties Gas Co., Figueroa & Anacapa Sts., Santa Barbara, Calif.

Geldert, Walter, Southern Counties Gas Co., Pomona, Calif.

Haynes, W. T., Southern Counties Gas Co., Covina, Calif.

Keefe, W. E., Southern Counties Gas Co., 114 E. Lemon Ave., Monrovia, Calif.

McBurney, Ben F., Southern Counties Gas Co., Pomona, Calif.

Merker, Fred G., Southern Counties Gas Co., 515 California St., Ventura, Calif.

Rogers, C. A., Southern Counties Gas Co., Ontario, Calif.

Rutledge, Charles E., Southern Counties Gas Co., 207 W. 2nd St., Santa Ana, Calif.

Scott, Clinton D., Southern Counties Gas Co., P. O. Box 68, Monrovia, Calif.

Smith, Geo. W., Southern Counties Gas Co., Figueroa & Anacapa Sts., Santa Barbara, Calif.

Spencer, C. G., Southern Counties Gas Co., Pomona, Calif.

Casey, Mary V. (Mrs.), Central Union Gas Co., 519 Courtlandt Ave., Bronx, N. Y.

Rizzo, Domenic, Central Union Gas Co., 529 Courtlandt Ave., Bronx, N. Y.

Horn, Robert J., Central Hudson Gas & Electric Corp., South Road, Poughkeepsie, N. Y.

Gamble, E. C., Birmingham Stove & Range Co., P. O. Box 608, Birmingham, Ala.

Kiley, Aloysius B., Westchester Lighting Co., 1st St. & 1st Ave., Mt. Vernon, N. Y.

Ramsey, Harry Clinton, Florence Gas & Fuel Co., Florence, S. C.

Irwin, Walter E. L., Phila. Suburban Counties Gas & Elec. Co., Chester, Pa.

Kesinger, Earl V., Cities Service Co., Bartlesville, Okla.

Carlson, Clifford E., 1927 Waldeck Ave., Columbus, Ohio.

Hallahan, Elizabeth C., Consolidated Gas Co., 130 E. 15th St., New York, N. Y.

Baumeister, Theo., Jr., Columbia University, New York, N. Y.

Murtha, Joseph A., Westchester Lighting Co., 9 So. 1st Ave., Mt. Vernon, N. Y.

Germain, Frances B., Westchester Lighting Co., 1st St. & 1st Ave., Mt. Vernon, N. Y.

Brundage, Henry M., Jr., Westchester Lighting Co., First St. & 1st Ave., Mt. Vernon, N. Y.

Herendeen, Fred W., Gas Heating Boiler & Furnace Assn., Geneva, N. Y.

Weiss, Benjamin, Chas. Weiss & Son, 2866 Atlantic Ave., Brooklyn, N. Y.

Kingsland, George, Minneapolis-Honeywell Regulator Co., 462 Boylston St., Boston, Mass.

Michelson, Arnold, Minneapolis-Honeywell Regulator Co., 521 Bulletin Bldg., Philadelphia, Pa.

- Schrader, D. O., Northern Indiana Public Service Co., Hammond, Indiana.
- Mitchell, Dean H., Northern Indiana Public Service Co., Hammond, Indiana.
- Anderson, Edward D., Northern Indiana Public Service Co., Elkart, Indiana.
- Naschold, Paul J., Rockford Gas Light & Coke Co., Rockford, Ill.
- Hickey, William C., Peoples Gas Light & Coke Co., 4520 Broadway, Chicago, Ill.
- Paulsen, Henry C., Stamford Gas & Electric Co., Stamford, Conn.
- Wrench, Harry K., Michigan Federated Utilities, Plymouth, Michigan.
- Chambers, R. C., Iroquois Gas Co., Mineral Spring Road, Buffalo, N. Y.
- McGill, Edward K., Jr., General Ceramics Co., 225 Broadway, New York, N. Y.
- Ingalls, Eugene K., Minneapolis Gas Light Co., 18-24 So. 7th St., Minneapolis, Minn.
- Lager, Raymond Earl, Illinois Power & Light Corp., Granite City, Illinois.
- Molloy, Andrew R., Lowell Gas Light Co., 299 Riverside St., Lowell, Mass.
- Shire, Sidney, Peoples Gas Light & Coke Co., 8135 Vernon Ave., Chicago, Ill.
- Sewall, Frank H., Brooklyn Union Gas Co., 176 Remsen St., Brooklyn, N. Y.
- Stockman, Erling B., Astoria Light, Heat & Power Co., Shore Road, Astoria, L. I., N. Y.
- Ross, Alexander E., Astoria Light, Heat & Power Co., Astoria, L. I., N. Y.
- Taylor, Bennett, The Koppers Co., 510 Hill Ave., Wilkinsburg, Pa.
- Flanders, W. W., Tacoma Gas & Fuel Co., 919 N. G. St., Tacoma, Washington.
- Campbell, C. S., W. K. M. Co., Inc., Houston, Texas.
- McManis, Fred, W. K. M. Co., Inc., Houston, Texas.
- Cain, J. W., J. W. Cain & Company, 1403 Second National Bank Bldg., Houston, Texas.
- Siddell, Henry Levis, Wailes-Dove Hermiston Corp., 620 Delaware Ave., Philadelphia, Pa.
- Buckheit, Frank G., American Radiator Co., Bond Plant, Buffalo, N. Y.
- Killam, Gaston B., Killam Gas Burner Co., Great Falls, Montana.
- Alford, James Donald, Interstate Public Service Co., Indianapolis, Ind.
- Frederickson, Hubert M., Gary Heat Light & Water Co., Gary, Indiana.
- Vilven, Earl Scofield, Western United Gas & Electric Co., Aurora, Ill.
- Wilcox, Henry Mills, Southern Counties Gas Co., Santa Monica, Calif.
- Wendt, Carl A., Lee B. Mettler Co., 1615 S. Yorktown, Tulsa, Okla.
- Kazorski, Stanley K., The Koppers Co., 5220 Colombo St., Pittsburgh, Pa.
- Lawton, A. H., Canadian & Gen'l Finance Co., Ltd., 357 Bay St., Toronto, Ont., Canada.
- O'Driscoll, William J., Safety Gas Main Stopper Co., 523 Atlantic Ave., Brooklyn, N. Y.
- Hasselback, Walter M., 1702 Steuben St., Crafton, Pa.
- Weddell, Horace A., 4814 Kimball Ave., Chicago, Ill.
- Cassidy, Edward L., Stamford Gas & Electric Co., P. O. Box 321, Stamford, Conn.
- James, Richard L., 26 S. 2nd St., Harrisburg, Pa.
- Montgomery, L. V., Pennsylvania Gas Co., Erie, Pa.
- Crabb, John P., Worcester Gas Light Co., Worcester, Mass.
- Snowden, Webster B., Public Service Elec. & Gas Co., 90 Hamilton St., Somerville, N. J.
- Blake, Alfred E., United Gas Improvement Co., P. O. Box 1902, Philadelphia, Pa.
- Turnan, John L., 12 West St., Millbury, Mass.
- Linnell, W. S., Portland Gas Light Co., 188 Middle St., Portland, Me.
- Riker, B. M., Charles H. Tenney & Co., 200 Devonshire St., Boston, Mass.
- Dean, Carroll A., Lawrence Gas & Electric Co., 370 Essex St., Lawrence, Mass.
- Johnson, Herbert, 35 Harvard St., Worcester, Mass.
- Vilas, Franklin E., 1172 Park Ave., New York, N. Y.
- Taylor, Wm. E., Heating & Piping Cont. Ass'n, 50 Union Square, East, New York, N. Y.
- Roy, Elmer F., 5207 Monticello Ave., Dallas, Texas.
- Clausen, W. F., Conewago Gas Co., Hanover, Pa.
- Ramsey, H. N., United Gas Improvement Co., 1401 Arch St., Phila., Pa.
- Brokaw, J. C., Dixie Gulf Gas Co., Houston, Texas.
- Riegel, L. F., Virginia Elec. & Power Co., Richmond, Va.
- Bunte, Karl, Dr., Gasinstitut, Schlackthausstr. 3, Karlsruhe, Germany.
- Grosse, Otto H., Milwaukee Gas Light Co., 182 East Wisconsin Ave., Milwaukee, Wisc.
- Callanen, G. A., The American Appraisal Co., 161 E. Michigan St., Milwaukee, Wisc.
- Zieme, Harry, Pennsylvania Electric Co., 535 Vine St., Johnstown, Pa.
- Sober, Lake R., Pennsylvania Electric Co., 535 Vine St., Johnstown, Pa.
- Cary, Miles, Pennsylvania Electric Co., 535 Vine St., Johnstown, Pa.
- Brohl, Charles, Pennsylvania Electric Co., 535 Vine St., Johnstown, Pa.
- Fue, Charles J., Brooklyn Union Gas Co., 176 Remsen St., Brooklyn, N. Y.
- Munnich, William F. R., Philadelphia, Suburban Counties Gas & Electric Co., Broad & Arch Streets, Philadelphia, Pa.
- Winner, Clifford, Philadelphia Suburban Counties Gas & Elec. Co., Broad & Arch St., Philadelphia, Pa.
- Atha, W. Hunter, The Mid East Oil Co., 707 N. Main St., Zanesville, O.
- Esslinger, Edwin W., Union Gas & Electric Co., 4th & Plum Sts., Cincinnati, O.
- Paulsen, Richard J., 2991 Observatory Ave., Cincinnati, O.
- Gebhardt, Edward F., Jr., Semet Solvay Engrg. Corp., 40 Rector St., New York, N. Y.
- Kenyon, Otis A., Ray D. Lillibridge, Inc., 8 West 40th St., New York, N. Y.
- Domovs, Sidney, Kings County Lighting Co., 55th & First Ave., Brooklyn, N. Y.

Associations Affiliated with A. G. A.

Canadian Gas Association

Pres.—P. V. Byrnes, United Gas & Fuel Co., Hamilton, Ont.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., Hamilton, Ont., June 21 and 22, 1928.

Empire State Gas and Electric Association

Pres.—H. O. Palmer, Empire Gas & Electric Co., Geneva, N. Y.
Chairman Gas Section—O. H. Smith, Consolidated Gas Co. of New York, New York, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Conv., Upper Saranac, N. Y., Oct. 1 and 2, 1928.

Illinois Gas Association

Pres.—P. D. Warren, The Peoples Gas Light & Coke Co., Chicago, Ill.
Sec.-Tr.—R. V. Prather, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., 1929.

Indiana Gas Association

Pres.—I. C. Shepard, Southern Indiana Gas & Elec. Co., Evansville, Ind.
Sec.-Tr.—F. B. Tracy, Central Indiana Gas Co., Muncie, Ind.
Conv., Columbia Club, Indianapolis, Ind., May 24, 1928.

Michigan Gas Association

Pres.—F. W. Steere, Semet-Solvay Co., New York, N. Y.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., Grand Hotel, Mackinac Island, Mich., July 5 to 7, 1928.

Mid West Gas Association

Pres.—C. A. Nash, United Light & Railway Co., Davenport, Iowa.
Sec.-Tr.—A. W. Schmidt, Des Moines Gas Co., Des Moines, Iowa.
Conv., Cornhusker Hotel, Lincoln, Nebr., April 18-20, 1928.

Missouri Association of Public Utilities

Pres.—W. H. Henby, St. Louis County Water Co., St. Louis, Mo.
Sec.-Tr.—F. D. Beardalee, 315 N. 12th St., St. Louis, Mo.
Conv., Jefferson City, Mo., April 26, 27 and 28, 1928.

New England Gas Association

Pres.—G. W. Stiles, Portland Gas Light Co., Portland, Me.
Secretary—E. A. Taylor, 100 Weybosset St., Providence, R. I.
Chairman Operating Div.—H. Vittinghoff, Stone & Webster, Inc., Boston, Mass.
Secretary Operating Div.—H. G. Taylor, Lawrence Gas & Electric Co., Lawrence, Mass.
Gov. Sales Div.—M. B. Webber, Marlboro-Hudson Gas Co., Boston, Mass.
Sec.-Tr.—Sales Div.—J. H. Sumner, 719 Massachusetts Ave., Cambridge, Mass.
Pres. Industrial Div.—E. W. Berchtold, Boston Con. Gas Co., Boston, Mass.

Eastern States Gas Conference

Pres.—H. H. Newman, Public Service Electric & Gas Co., Trenton, N. J.

Sec.-Tr. Industrial Div.—L. E. Wagner, Providence Gas Co., Providence, R. I.
Chairman Acctg. Div.—W. A. Doering, Boston Con. Gas Co., Boston, Mass.
Sec.-Treas. Acctg. Div.—Otto Price, Boston Con. Gas Co., Boston, Mass.
Conv., 1929.

New Jersey Gas Association

Pres.—J. L. Conover, Public Service Electric & Gas Co., Newark, N. J.
Sec.-Tr.—Louis Stocker, Public Service Electric & Gas Co., Newark, N. J.
Conv., 1928.

Ohio Gas and Oil Men's Association

Pres.—J. J. McMahon, The East Ohio Gas Co., Cleveland, O.
Sec.-Treas.—Wm. H. Thompson, 811 First National Bank Bldg., Columbus, O.
Conv., 1928.

Oklahoma Utilities Association

Pres.—E. R. Ernsberger, Southwestern Light & Power Co., Oklahoma City, Okla.
Mgr.—E. F. McKay, Oklahoma City, Okla.
Conv., 1929.

Pacific Coast Gas Association

Pres.—L. M. Klauber, San Diego Consolidated Gas & Electric Co., San Diego, Calif.
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
Conv., Coronado, Calif., Sept. 17-21, 1928.

Pennsylvania Gas Association

Pres.—J. A. Weiser, Peoples Light Co., Pittston, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Conv., Yorktown Hotel, York, Pa., April 10 & 11, 1928.

Southern Gas Association

Pres.—P. S. Arkwright, Georgia Power Co., Atlanta, Ga.
Sec.-Tr.—J. F. Connolly, 141 Meeting St., Charleston, S. C.
Conv., Jacksonville, Fla., April 17-19, 1928.

Southwestern Public Service Association

Pres.—M. T. Walker, Southwestern G. & E. Co., Shreveport, La.
Chairman Gas Section—C. M. Thompson, Texas Power & Light Co., Waco, Texas.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
Conv., Dallas, Texas, May 2 to 5, 1928.

The Public Utilities Association of Virginia

Pres.—J. W. Hancock, Roanoke, Va.
Sec.—A. B. Tunis, 301 East Grace St., Richmond, Va.
Conv.

Wisconsin Utilities Association

Pres.—John St. John, Madison Gas & Electric Co., Madison, Wis.
Exec.-Sec.—J. N. Cadby, 432 Broadway, Milwaukee, Wis.
Conv., 1928.

Geographic Divisions

Sec.-Tr.—J. C. Smith, Consumers Gas Co., Reading, Pa.
Conv., Elizabeth, N. J., April 4 and 5, 1928.

Tenth Annual Convention of the American Gas Association
Atlantic City, N. J.

October 8-12, 1928

Annual Convention of the Natural Gas Department
Dallas, Texas

May 7-10, 1928

Employment Bureau

(Address All Communications to Key Number)

SERVICES REQUIRED

SALESMEN—Well-known manufacturer of water heaters is in need of local representatives in several cities. The type of man wanted should be about 30 to 35 years of age, well educated, healthy, good business experience including direction of other employees. Reply, giving full qualifications, present connection and salary. Treated in confidence. Inclose photo if available. Address A. G. A.

Key No. 0107.

WANTED—Works Foreman. One that can get results and capable of handling men. Send out 150,000 daily. First class location. The plant and mains in good condition. State salary and experience in first letter. Address A. G. A.

Key No. 0110.

GAS RANGES SALESMAN to represent a Trade Mark Line of Gas Ranges and Broilers—both Domestic and Hotel Lines. One experienced and having some acquaintance with West Shore Gas Companies in Illinois and Wisconsin preferred. Address A. G. A.

Key No. 0111.

GAS SALES ENGINEER—Experienced in house heating. State in detail experience, age and salary desired. Address A. G. A.

Key No. 0112.

WANTED—Live wire organization preferably, or an established individual to represent manufacturer of a new type—nationally advertised water heater. Full cooperation and generous commissions paid. Water heater is now completed and selling fast. Address A. G. A.

Key No. 0113.

PUBLIC UTILITY MEN—Due to rapid expansion, a large holding company with principal Accounting offices located in Central New York State has various desirable positions open. Public Utility Accounting experience essential. Applications must state age, experience, salary desired and when available. All applications will be treated in strictest confidence. Address A. G. A.

Key No. 0114.

SALESMEN WANTED—The manufacturer of a nationally advertised line of gas conversion burners desires the services of two high class men to travel in natural gas territory and contact gas companies, distributors and dealers; experience in furnaces, boilers or house heating systems desirable; good opportunity and remuneration to right men; replies treated confidentially; give complete details in your first letter. Address A. G. A.

Key No. 0115.

SERVICES OFFERED

WANTED—Superintendent experienced in design and production gas ranges and heaters for new company in Southwest. Also need sales manager. Can acquire financial interest but not essential. State fully experience, qualifications and expected salary. Box Address A. G. A.

Key No. 254.

WANTED—Position as Manager by man thoroughly capable of handling all departments of a Gas property. Good record in Public Relations, has also operated Electric Light & Power Plant. Address A. G. A.

Key No. 255.

EXPERIENCED—"Employee and Public Relations Man." Well grounded in knowledge of public utility organization business. Deeply interested and specially experienced in all work pertaining to public and employee relations work. Capable of executive position of responsibility. Address A. G. A.

Key No. 256.

SPECIAL UTILITY ENGINEER—Revamping, construction or development work; with large operation or holding company preferred. Age 45. Experience 27 years as superintendent, engineer and manager of moderate growing systems; Koppers coke plants and waning natural gas. All kinds distribution. Also combustion specialties business. Would consider short term Foreign commission. Address A. G. A.

Key No. 242.

POSITION WANTED—as Superintendent or General Foreman of artificial gas plant. Eighteen years experience in manufacture and distribution, high and low pressure systems. Address A. G. A.

Key No. 243.

ASSISTANT TO EXECUTIVE: Married, 37 years old, secretary to well-known executive in New England Company, wishes similar position in medium size company. Anywhere. Best of references. Reason for change, reorganization of management. Address A. G. A.

Key No. 245.

AGGRESSIVE MANAGER or General Superintendent, 25 years in the industry, familiar with all branches of operation and construction. Best of references. Available about March 1, 1928. Address A. G. A.

Key No. 246.

AGGRESSIVE MANAGER or General Superintendent, 25 years in the industry, familiar with all branches of operation and construction. Best of references. Available about March 1, 1928. Address A. G. A.

Key No. 247.

POSITION WANTED—Auditor or Office Manager. Middle West preferred. Sixteen years' experience in local and general offices; coal and water gas accounting; coke distribution; rate promotion; mechanical bookkeeping systems; all phases of commercial department, city and suburban territory. Married. Age 38. Excellent health and splendid personality. Address A. G. A.

Key No. 248.

WANTED—Position as manager of small progressive gas company in a growing community by technical graduate, 36 years old. Married. Twelve years' experience including water gas plant construction and operation, High- and Low-Pressure Distribution, including Meters and Regulators. Special emphasis on Public Relations work. Address A. G. A.

Key No. 249.

GAS DISTRIBUTION FOREMAN desires to change his position. Experienced in laying mains and services on both high- and low-pressure, good man on governors, can weld pipe. Also considered a first-class fitter on automatic, storage, tank water heaters, house heating systems, and other appliances. Will start as fitter or welder if there is chance for advancement. Address A. G. A.

Key No. 250.

POSITION WANTED as superintendent of distribution or manager of small property. Seven years' experience in distribution both high- and low-pressure systems. In charge of shop department and meter repair shop for four years. Address A. G. A.

Key No. 251.

SUPERINTENDENT of large gas works in East desires to make change. Prefers similar position under more pleasant surroundings, or general supervision over a number of small plants. Address A. G. A.

Key No. 252.

OPEN FOR SALES position with manufacturer of gas company on automatic water heaters or gas fired boilers (or both). Gas fired boiler proposition with manufacturer preferred. 16 years' experience with high class references. Large gas company acquaintance east of Chicago. Road experience. Address A. G. A.

Key No. 253.

AGENT—A man of broad sales experience and acquaintance in the gas industry and other trade outlets of Southwest desires sales agency for line of gas equipment in Texas and adjoining territory. Address A. G. A.

Key No. 257.

AVAILABLE for Gas Company or Appliance Manufacturer. A man with wide experience in design, installation and utilization of domestic appliances. Address A. G. A.

Key No. 258.

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